No. 39.

No 9426

Field Book

of

W. L. Jepson

1921

If lost finder please return to W.L. Jepson, 2712 Benvenue Ave., Berkeley, California and receive reward.

San Rafael to Willits, Sept. 8, '21.

1

– Left Berkeley 7:30 a.m.; his machine in party: Dr. & Mrs. Wiegand of Cornell; Prof. Upton of Cornell; Mrs. his mother; Betty, the adopted child; my assistants Miss Newton and Miss Stewart, T.L.M. and myself.

· No. 9426. Hemizonia luzulaefolia DC.
This yellow-flo. Tarweed filled with a yellow sheet the little valleys of Marin Co. north of San Rafael, and especially the serpiz valley flats forming the mouths of cañons.

· No. 9427. Picris echioides
By railway track.

· No. 9428. Lessingia hololeuca Greene Ignacio

· No. 9429. Mentzelia laevicaulis T. & G. Russian River Rd, Healdsburg

San Rafael to Willits.

No. 9430. Trichostemma lanceolatum Bth. Russian River Vcd at Healdsburg.

No. 9431. Boisduvalia densiflora (Lindl.) S. Wats. ~~stricta~~ E. of Lytton School ne. of Healdsburg, on s. side Alexander Valley. Gulch Vcd. (Sonoma Co.)

No. 9432. Minetanthe filosa (Benth.) Greene. Det. A.L.G. with 9431.

No. 9433. Chenopodium with 9431.

No. 9433a. Hemizonia fitchii Gray var. abdita. Lytton School, gulch E. of {Alexander}

No. 9434. Chrysopsis Stream Vcd, Hopland.

No. 9435. Brickellia with 9434.

No. 9436. Euphorbia serpyllifolia Pers. with 9434.

No. 9437. Nicotiana bigelovii Watz. with 9434.

No. 9438. Chrysopsis with 9434. This is very

cont. p. 4

– Dr. Wiegand speaks of his disappointment in marshes for botanizing, i.e. here in California. In his state of New York marshes always furnish the best botanizing ground. Marshes in California, freshwater marshes, are likely to be poor in species. On the contrary rocky places or slopes are rich in interesting species. This note has reference chiefly to summer botanizing in California at low altitudes.

– "Any botanist who gives an intensive stress to nomenclature seems to me to be either defective in true scholarship or somewhat unbalanced". I made the above remark to Wiegand who agreed with it.

Ukiah to Long Valley.

cont'd p. 2.

abundant in the broad flood bed of streams in this region. I saw areas somewhere between Ukiah and Long Valley where the broad flat of the stream bench was covered with it for a mile – possibly for a greater distance.

No. 9439. Minetanthe pilosa (Benth.) Greene. det: A.L.G.
with 9434.

No. 9440. Xanthium canadense Mill.
with 9434.

No. 9441. Eriogonum roseum
first stream bed n. of Ukiah = Ackermann Creek.

No. 9442. Centaurea
with 9441.

No. 9443. Lagophylla ramosissima Nutt.
with 9441.

No. 9444. Chrysopsis
with 9441.

No. 9445. Eremocarpus setigerus Bth.
with 9441.

No. 9446. Asclepias eriocarpa Benth.
Long Valley, about 4 mi. n. of

Laytonville. Some of these valleys have local names doubtless and this one, where we lunched, may not be a real part of Long Valley, but it is close to and in the same bowl of the mountains as Long Valley.

– Rattlesnake Creek: Trillium ovatum, Trientalis latifolia

No. 9447. Eriogonum nudum var. nudum
Long Valley.

No. 9448. Eriogonum latifolium Smith
Ackermann Creek, Ukiah Valley.

No. 9449. Stephanomeria virgata
with 9448.

No. 9450. Aralia californica Wats:
Rattlesnake creek, about half-way between Cummings and Leggat Valley, on mountain side, in

6 Mendocino Co. South Fork Eel River, 9 Sept. '21.

a lateral shady gulch with water trickle.

No. 9451. Mimulus cardinalis Dougl. det. A.L.G.

with 9450.

No. 9452. Disporum hookeri Britton.

with 9450.

No. 9453. Penstemon corymbosus Bth.

Anthers deliscent from the base upward so that the cells are confluent and explanate; they are quite glabrous. The sterile stamen is densely hairy on one side. The upper lip is notched, lower lip 3-lobed, the lobes oblong-ovate, acutish. Inside surface of lower lip, the whole lip, linear-spumellulate. This pubescence is hard to describe, the hairs are short, flat, perhaps scurfy-puberulent is better. This is very showy and very fine. It is now in splendid flower. The woody base is very short, 3 or 4 in. high. – Red Mt. Creek.

No. 9454. Malacothrix floccifera

with 9453.

Bull Creek, Sept. 10, 1921. 7

Humboldt Co.

Bull Creek Flat.

Sequoia sempervirens.

	Circ. at 4 ft.	Approx. Height
No. 1. –	12.10	250-275
" 2 –	13.0	"
" 3 –	45.5	"
" 4 –	40.8 at 5 ft	"
" 5 –	35.5 at 6 ft	
" 6 –	51.3* at 6 ft.	

This looks more like a Sequoia gigantea trunk than any of the others

" 7. – 41.8 ft. at 6 ft.

* = "Big Tree"

Bull Creek, South Fork Eel River

— Taxus brevifolia Nutt.

No. 1. 4 ft. circ. at 4 ft.
Height = 36 ft.
Highly irregular tops in this region.

No. 2. 3 ft. 4 inches at 4 ft.
47 ft. high!

— On the flats Vancouveria

No. 9455. Tiarella unifoliata Hook.
Bull Creek flats.

No. 9456. Taxus brevifolia Nutt.
Bull Creek flat. See above.

No. 9457. Abies grandis Lindl.
Bull Creek flats.

— There are comparatively few natural objects on this earth that one wants to see more than once; there are few that one wants to see a good many times. But one revisits Sequoia gigantea many times and always with a fresh sense of exaltation. Each visit brings fresh ideas to bear on these trees, so very hard is it to encompass their significance by one or even by a few visits. The same view can be taken of the great Redwoods on the flats of Bull Creek — they are true giants and their average runs high. One is strongly impressed by the unusual character of this assemblage.

- Vaccinum ovatum, 40 ft. in the air on a dead Redwood trunk! This takes to Redwoods that have died, either erect or lying prostrate. Remaining

- Pasania densiflora that hangs itself. A Tan Oak seedling has started to grow on a Redwood log, one end of which was a bit elevated as it lay on the forest floor. The Redwood rotted and sloughed away on the outside of the log, destroying in part the foothold of the root-system of the Tan Oak seedling now 4 ft. high. The seedling toppled over and hung upside down in the air, one root still ramifying in the [illegible].

- The slender limbs of the Sequoia sempervirens, straight or drooping. The big limbs of the Sequoia gigantea and crooked and stout and short. The limbs of Sequoia sempervirens are short. The symmetry of Redwood is so great that the trees do not look large. But there is a constant miracle performed before one's eyes when one sees a human being appear in the scene. Two or three persons walk along the flat and the eye at once says they are under-sized persons, often ridiculously undersized. You look carefully the second time and you see that they are quite normal sized people. After this is repeated the trees begin gradually to take on their true proportions.

- Chimney stile, living foliage with half one longitudinally and thereby bleached from the side I viewed it. 80 ft. h. Another near it, 40 ft. h. with holes in it at intervals. These great standing hulks are impressive in an unusual degree - their height is great and the huge windows in them assist the eye to comprehend their size.

- Seedlings. Young seedling tree 23 ft. h., 1 1/2 in. diam. at base. A small thicket of seedlings stands on the banks of Bull Creek. These seedlings, 20-25 feet high, were very slender and support or protect each other. The wind has released one and it has fallen over and forms a low curve with the tip on the ground. Its measurements are as above.

[- Bolling Grove.

Redwood opp. memorial tablet, on w. side of road, 36.6 ft. at 6 ft., 175 ft. h.]

- Splitting of Redwood. Redwood is remarkably straight-grained. One can split it in any degree of thickness - railway ties or posts for fencing - or to any degree of thinness - grape-vine stakes or shingles or thin slivers, the grain running true from end to end. No other Californian wood approaches Redwood in this quality; perhaps it is excelled by no other wood whatsoever in this particular.

[- The fern collected at Leggett Valley see p. 20, no. 9478a, Pellaea densa Hook., grew on the red flat, at the point where one turns East from Leggett Valley. Just after one goes down grade further; and crosses a bridge.]

Bull Flat, S. Fork Eel River

- Plants in Bull Flat.
Vancouveria hexandra
Cornus nuttallii Aud.
Vaccinium ovatum Pursh.
Berglus nastata
Abies grandis Lindl

Philipsville and Garberville, Sept. 10.
Humboldt Co.

No. 9458. Helenium
Flat at Philipsville, shady.

No. 9459. Cirsium mitis Bernh.
This burdock grew with 9458

No. 9460.
This fern grew near Garberville.

No. 9461. Adiantum jordanii Muell.
This fern grew with 9460.

No. 9462. Clintonia andrewsiana Torr.

Sept. 10, 1921.

- There is no disappointment in the Redwoods of Bull Creek. I have said so much of them to others that I am doubtful how they may impress me when I visit them. They give an impression of very great height but mere height is not the strongest impression. One gets an idea of upper worlds, removed from the ground on which I walk, upper zones of life flourishing in their own spheres and representing something different from the world below. I was struck by the mightiness of the upper stories of the forest as a whole - upper regions not visited or explored and representing something entirely new.

Redwood Flat, west bank of S. Fork Eel, roughly about 7 or 8 mi. S. of Garberville, not far from Indian Creek.* Humboldt Co.

— The open Redwood forest is as interesting as the denser forest; and there is much half-open Redwood along the South Fork. We break camp at Bull Creek early in the afternoon of Sept. 10 and return southward, passing Miranda, Phillipsville, Garberville; S. of Garberville crossing the river on a large bridge and stopping over night at a fine Redwood flat.

— Singular burls at Sat-nights camp. The forest on the flat is composed of huge Redwoods. A number have conspicuous burls. On one tree the burls are near the ground, very large and one is shaped like a giant man facing the trunk.

— Aesculus californica Nutt. occurs in little patches at bases of hills in open or semi-open country.

No. 9463. Vitis californica Benth. River bank

No. 9464. Artemisia dracunculus L. with 9463

*= Devoy Flat acc. Solon H. Williams in litt. Humboldt Co.

Sept. 11, 1921. Devoy Flat. S. Fork Eel. 17

No. 9465.

— Trichostemma laxum Gray.

Corolla indigo blue. Upper lobes obovate, acute; lateral lobes lower lip broadly oblong, acute; middle lobe lower lip long-oblong, truncate. Its sides obscurely turned up, especially below the middle so as to be weakly trough-shaped, its color very deep purple, the spots and markings on a light ground, the light ground not abundant in area. All lobes of the same length. Lip with undulate side-margins. see p. 18.

No. 9466. Trichostemma lanceolatum Bth. see p. 18.

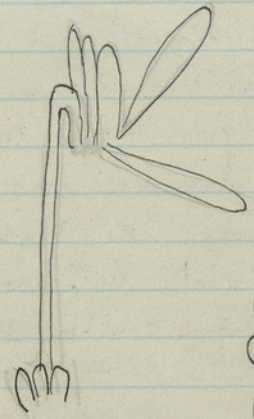
Lobes upper lip oblong narrow, somewhat coiled or rather twisted not really coiled, longer than the lobes of lower lip. All lobes light purple or light blue, very light, the middle lobe of lower lip almost with light purple weak markings

Redwood Flat, not far from Indian Creek = Dewey Flat * Humboldt Co.

18

on the markings below dark purple. Rip a little trough-shaped.

The very rough and hasty field sketches show the difference in the curving of the tube in the two species.



Pale-blue fld. No. 9466.

Purple-fld. No. 9465.

* The creek down n. end of the flat we call Grove Creek. — Chas. Neilsen in litt. Nov. 22, 21.

Rockygulch. Sept. 11, 1921, c. 2000 ft. near Mendocino* Little Red Mt. Creek. S. Fork Eel R.

19

No. 9467. Baccharis pilularis ssp. consanguinea (DC.) wolf

No. 9468. Pentstemon corymbosus Bth.

No. 9469. Brickellia californica

No. 9470. Chrysopsis

No. 9471. Ribes roezlii var. amictum Greene. = R. vex. ho-calyculatum Kell.

No. 9472. Antrochinum vagans Gray.

No. 9473. Lonicera hispidula

No. 9474. Zauschneria californica Presl.

Near Piercy P.O.

* Little Red Mountain Creek = Mendocino Co. 1 nw.

— Great colonies of White Thorn in the valley n. of Leggett Valley (Ceanothus incanus T. & g.).

— Private herbaria. Wiegand says he bought from Dr. J. K. Small of the N.Y. Bot. Gard., for Cornell, Small's private collection of mosses.

— Leggett Valley, nw. Mendocino Co.

Libocedrus decurrens — 90 ft. h.

Pseudotsuga taxifolia

Acer macrophyllum Pursh

Heteromeles arbutifolia Roem.

Umbellularia californica Nutt.

Leggett Valley, S. Fork Eel River.
nw. Mendocino Co.

- Silene californica, Tap root 2 ft. long, a little larger than a pencil but holding its size downward.

No. 9475. Hemizonia

Dry open land.

[- Barbara + Darlington. On a trip to Labrador, Gray Herbarium party, Dr. Wiegand says there was a Bartram and a Darlington in the party, descendants of the famous botanists of those names.]

No. 9476. Polygonum

with 9475

No. 9477. Eriogonum vimineum

Sliding loose soil.

No. 9478. Rhamnus californica Esch. Typica CB Wolf see p. 13.

No. 9478a. Pellaea densa Hook.

- The road from Leggett Valley east to Cummings is well up on the mountain side. It is narrow and with short turns - but a smooth bed.

- F. V. Coville. This man is very arbitrary and dogmatic acc. to Dr. Wiegand, thus confirming the impressions in general that people give of him.

- We drove rapidly from Cummings south over the little divides to Long Valley, thence south to Willits, Ukiah and Hopland. Some 20 minutes drive this side (northerly) of Cloverdale I opened the gate of the Alder Glen School yard, drove to the rear and we camped for the night. As I was laying out my sleeping bag I heard a great racket on the road above, and looked in time to see a Ford machine go off the highway and turn over twice. While the occupants scuttled around on the road above, the Ford engine went right on running as tho nothing had happened!

Alexander Valley, south side. alt. c. 150 ft. Sept. 12, 1921. Sonoma Co.

No. 9479. Plantago lanceolata L.
moist flat.

No. 9480. Artemisia ~~heterophylla Nutt.~~ douglasiana Bess.
Moist flat.

No. 9481. Baccharis Douglasii DC.
Moist flat.

No. 9482. Xanthium canadense
Moist flat.

No. 9483. Psoralea macrostachya DC.
Moist flat.

No. 9484. ~~Solidago~~ occidentalis Nutt.
Moist flat.

No. 9485. Mentha arvensis L. var. villosa
~~denisa Briq.~~ Moist flat.

No. 9486. Verbena prostrata R. Br. lasiostachys Var. septentrionalis Moldenke
Moist flat.

No. 9487. Asclepias mexicana Cav. =A. fascicularis Dcne.
Moist flat.

No. 9488. Borrus glabrata Benth.
8 ft. h. Moist flat.

No. 9489. Hemizonia clevelandii Greene
Hayground but not as dry as usual.

– we stopped to botanize in Alexander Valley on a low flat surrounded by trees. The area had been mown for hay but it was a rather moist place and offered good botanizing for the short time we were there. At a hamlet near this place, the roads fork, one fork going to Healdsburg, the other easterly and on thru Knights Valley to the Napa Valley. We follow the latter road and travel down the ever-beautiful Napa Valley, stopping for a luncheon in the open air, as usual, this time in Hunts Grove, St. Helena. Thence on to Berkeley, where we arrived about 3:30. In the evening Dr. Wiegand lectured before the California Botanical Society on "A Botanical Expedition across the Continent".

24 Fairfax Manor to San Anselmo Creek

No. 9490. Carum Kelloggii Gray.
Hillslope sw. of Fairfax Manor.

No. 9491. Artemisia californica Less.
West of Fairfax, circa 800 ft.

No. 9492. Heteromeles arbutifolia Roem.
With 9491.

No. 9493. Aster
Tributary of San Anselmo Creek, running north

No. 9494. Quercus garryana Dougl.
With 9493.

No. 9495. Quercus garryana Dougl.
With 9493.

No. 9496. Eremocarpus setigerus Benth.
Open flat, upper Lagunitas Creek, near the old Bon Tempe ranch.

No. 9497. Juncus
Lower end of flat. See 9496.

No. 9498. Carum gairdneri Gray.
Lake Lagunitas

No. 9499. Juncus xiphioides Mey.
Phoenix Lake, Marin Co.

and Phoenix Lake, Marin Co., Sept. 24 1921. 25

No. 9500. Cyperus
Phoenix Lake, Mt. Tamalpais.

Went by train to Fairfax Manor, thence up stream and up hill westerly a little south, thence to the left of a cow-ranch, taking down the headwaters of a dry stream that led us into a deep cañon and brought us out in the "wash" of San Anselmo Creek; thence straight up the hill to the second road, then a little south over the ridge to open country forming a broad low valley, the lower part of which runs Lagunitas Creek (probable site of old Bon Tempe Ranch? – or this may have been 400 yds. up in the trees in the hills), thence to Lake Lagunitas and Roas + Pt. San Quentin. – Miss Newlon, Miss Stewart, Miss Spalding, myself.

Mt. Tamalpais

No. 9501. Parnassia palustris var. californica Greene. Stamens 5, alt. with pets.; opp. pets. are 5 fan-shaped or broadly oblong dilated structures fimbriately cleft at summit with a yellow gland tipped on each. Stigmas 5, very short, no style. — Near Rattlesnake Camp.

No. 9502. Arctostaphylos sensitiva Jepson. Crown sprout on fire trail, showing large serr. leaves. Collected on the zig-zag trail.

— Tricarenia arborescens favors the hottest sw. chamise slopes. It seems abundant in a ribbon on the lower side of each trail, i.e. on broken ground.*

— A hill slope of Adenostoma fasciculatum now looks dead — so red brown is it. This red-brown is given by the dried panicles.

* The shrubs are locally called Golden Fleece

— Umbellularia californica is a most versatile tree. Its capacity to occupy very unlike situations and assume very different forms is well illustrated on Mt. Tamalpais.

— Baccharis pilularis, occurs prostrate about 300 yards westerly from beginning of pipe-line trail at Muir woods ridge, at point where railway crosses ridge.

(No. 9504.

— Arctostaphylos montana Eastw. Densely branched in top, forming a thick top, 3 to 4 ft. h. and twice as broad. One thicket of it, very close & evenly branched in top, 6 to 6½ ft. h., 24 ft. broad, all from one central root. Cont. p. 28.

— A. virgata Eastw. Very glandular, 6 to 8 ft. h., apparently not crown sprouting.

Cont. from p. 27.

– Arctostaphylos montana. Eastw. This is a very remarkable individual. It is on left-hand side of trail about ½ mile easterly from amphitheatre on trail to west peak. The original individual, about 6½ ft. high and rect seems later* to have developed the power to throw out long lateral branches. These extend out a long way and are closely branched with erect branches – the top being thick and sloping down from the open central parent part of the bush. No. 9504. Cont. p. 30.

* It evidently came to its height maturity and then under some stimulus it threw out laterally from its trunk base as ~~string~~ stems indicated. The "original" bush is like an open A. manzanita bush 6 ft. high. The lateral development forms a low sloping crown which is very thick and quite even.

No. 9503. Quercus wislizenii A.DC. var. frutescens. Ridge below Mill Valley and Muir Woods.

No. 9504. Arctostaphylos montana Eastw. Bill Williams trail. See p. 27.

No. 9505.

No. 9506. Quercus wislizenii A.DC. var. frutescens Engelm. Bill Williams trail. It is common along this ridge between West Peak and Rock Spring. It is in good fruiting and shows as great a range of variation in shape and size of nuts as the species, varying from small cylindric nuts to thick or globose ones.

No. 9507. Calycadenia multiglandulosa DC. ssp. cephalotes (DC.) Keck Boot Jack Camp.

No. 9508. Zauschneria californica
Presl. Bootjack Camp.

No. 9509. Calycadenia multiglandulosa
DC. ssp. cephalotes (DC.) Keck.
Mountain Theater.

No. 9510. Epilobium franciscanum
Barbey. Bootjack Camp.

No. 9511. Grindelia
Bootjack Camp.

No. 9512. Cupressus Sargentii Jepson
Near West Peak.

— Arctostaphylos montana Eastw.
Cont. from p. 28. Several more very large individuals were seen along the Bill Williams Trail on the way to West Peak from Mountain Theater. Perhaps they were equally large but all had the same habit; elongated lateral branches making a low broad crown, very broad and relatively very low.

No. 9513. Arctostaphylos
I thought in the field this may be A. virgata Eastw. But there seems to be every intergrade betw. this and A. glandulosa which is finely developed along the trail to West Peak. No. 9513 was obtained nearer the Mountain Theater end of the trail.

— T. G. Lemmon was a most pushing person; altho of modest manner, still very aggressive in getting the name of Lemmon to the front. But he was utterly impecunious and had to resort to divers tricks. I carried him free on the Erythea list- but when the first edition of the Flora of Western Middle California came out I neglected to send him a copy. There was no reason why I should. I had to give away a hundred copies. That was enough. Lemmon could have bought it in

any of the book-stores. But here he came in to my lab. one day, plainly very much agitated. He wanted to buy a copy. No, he would not accept a free copy. What had he done to be treated in that way - that no copy had been sent him at once? No, he could not and would not accept a copy. No, he must insist on buying a copy. However I finally quieted him and he went away happy and child-like with his presentation copy. He had no part in the book in any way, but he felt entitled to a copy. He was the Emperor Norton of California botany. Eaton, Ferns N. Am. 2:128 speaks of Lemmon's modesty. He was extremely modest in manner but it was a smoke-screen to conceal his push and imperviousness.

- Professor Arthur de Jaczewski, director of the Institute of Mycology and Pathology, Petrograd, is here. He is to speak before the meeting of the California Botanical Soc. Sat. eve. A snip-nosed clerk in the President's Office vetoed him because his name ended in "ski." He is not known a Bolshevist. All is internationally known as a scientist he is said to be a prince of the old empire and he certainly had a half-million acres confiscated by the Soviets. He pointed out the folly of fiat money and indicated that paper, in Russia was worth more just as paper than the current value of the denominations as money! That is the notes when printed would buy less in the open market than the paper cost to print as money!! He is a very human and likeable gentle-

man and his itinerary is being arranged by the Federal Quarantine Board. He is being accompanied in his tour by high officials of the Board and of the Bureau of Plant Industry. See my letters to the President's office dated Oct. 6 and 7. Continued at bottom of p. 41 seq.

– David T. Mason, formerly Professor of Forestry, lunched with me today. He said that on Big River, Mendocino Co., an acre plot of 2nd growth Redwood 48 years old averaged 150 ft. in height, some of it being 160 ft. h. The amount of B.M. was found in excess of that obtained per acre, as an average, from lumbering mature stands. Fritz & Metcalf's measurements. Mason is now a forest engineer and has contracts with several Redwood companies to put the operation of their holdings on a permanent

basis. The amount of standing Redwood timber exclusive of associated species is 70 billion feet. Mason regards this figure as too low; but at present rate of cutting the supply would last 100 years – before all virgin Redwood would be milled. Years ago the estimates were very low – 25 billion – but the estimates have been constantly raised. Rate of milling is of course likely to increase – Oct. 25. 1921.

– Heteromeles arbutifolia Roem. grew 15 ft. above tide-level, Pobreo Hills, Richmond, near the present San Rafael Ferry Ldg., on the Blake Bros. property, i.e. on the steep bluffs facing the Golden Gate. The shrubs were large ones, fruited finely but are now destroyed thru the ravage of the berry hunter. – Nov. 21. 1921. Facts from Anson Blake.

– Rattan, X., was at Three Creeks and Redwood Creek, June 27, 1883. See label astragalus spm.

— Austin, R. M., Mrs., noticed in Eaton, Ferns N. Am. 1:74.

— Orcutt, C. R. For latest Orcuttiana see letter file 1922, with comment by S. B. Parish.

— See footnote to Streptanthus glandulosus Hook. in Syn. Fl. p. 171, as a good example of the way in which the Gray Herb. people differ from others about species. It is done in a truly dignified way; so different from Greene's way — the more's the pity. It is too bad his real abilities were disfigured by a personal way of expressing opinion. Nevertheless Greene's criticisms were often very able and often exceedingly amusing. He enjoyed thoroly writing them. He had a keen sense of humor and enjoyed the humor in his name being linked with that of Orcutt; for Greene had a high opinion of his abilities and scholarly (cont. p. 41)

— Leucothoë Davisiae. J. P. Young, on Whiskey Butte, 4 mi. westerly from Etna Mills. He found it in flower! Two trees of Picea Breweriana on Whiskey Butte. — John P. Young, Oct. 9, 1921. He also says: "J. B. Davy is working on a Flora of South Africa. He is now and has been for a year at Cambridge, Eng., where he has room at the School of Botany of, and finds it very congenial; going down to Kew for a fortnight or so at need. He plans to go back to South Africa via California in about a year."

— Davy, Dr. C. C., notice of by J. M. Coulter, Bot. Gaz. 15:66.

— Jones, M. E., collected in Cal. in 1882, was in San Luis Obispo Co., 5 may. (coll. typhe Pencedanum californicum C. & R. Bot. Gaz. 13:143 (1888).

— Lyon W. S. On letter head "State Board of Forestry" his name appears printed as "Forester". See letter in pocket, Galium Catalinense sheet in U. C. Herb.

— Called at the Parishes last night. Mr. Parish says "Santa Ana Hills" of his labels are south of the San Bernardino Valley, just across the Santa Ana River. These hills have local names, at least in part, which appear on maps. Parish's term does not appear on maps. Miss Powell, the botanical artist, was there. She told this story. Hall left a case unlocked. Miss Walker discovered it and said, "I must scold him about that". Miss P. told H. what he was in for. So when H. & Miss P. went out to the herb. cases next time, Miss Walker was seen by Hall to approach and before Miss H. had a chance to speak H. said: "Miss W. what do you mean by leaving that herb. case unlocked? I am ashamed of you!" Miss W. stopped in stricken astonishment. Suprise and resentment were written large on her countenance!

Why, Professor Hall, she said, You left that case open yourself; you know you did! But H. brushed all this away or rather ignored it utterly and said: Miss W. I am suprised that you should neglect your duty so. Please do not do it again!

This story has more point than Miss Powell realized. Everyone who has visited the herb. has been suprised or annoyed to find such a policy in force as the close locking of the cases. This policy is Hall's policy. Miss Harriet Walker is the herbarium attendant or helper. She has been so long in the place and has been so impressed* with the necessity of keeping everything locked that she was naturally shocked. Hall, however, regarded it as a good joke.

— Rattan, V. On the labels in Stanford Herb. one finds: The Rattan Herbarium. Presented by Volney Rattan in 1903. On the label of "Pellaea mucronata" is the locality: "Rattan's Ranch, Cala-

* = see p. 41.

Veras Co., Mar. 1883." I suspect that Bolander turned over much of his herbarium & Rattan for one of Bolander's herb. labrs.: Herbarium, H.N. Bolander" appears in the Rattan collection in the Dudley Herb. See Pellaea andromedaefolia.

– Lemmon, J.G. His labels, printed as otherwise, or often atrociously annoying. For example: Pellaea andromedaefolia Fee. Crafton & Santa Barbara and Oakland Hills. Legit J.G. Lemmon. All printed. [Dudley Herbarium.]

– I have borrowed Pellaea from the Dudley Herb. The sheets in the mechanical make-up of an herb. do not compare with ours: the paper is thin; the numbering stamp is often sloochy; his different genera of ferns are often mounted on the same sheet, even when totally unlike in size and

appearance. – 6 Dec. 1921.

–*Cont. from middle p. 39. It has been put upon her for fifteen years that such [was an act] an unpardonable sin which no penance or repentance could assuage!

–(Cont. from p. 36.) standing. That the chances of nomenclatorial naming should marry his name with that of Orcutt, a rather cheap huckster of botanical wares and something of a mountebank, struck him as rather humorous. He really had a fine sense of humor. So did Mrs. B; but hers was sardonic and heavy. Greene's was light and fanciful.

–Cont. from p. 34 near top. He is a tall good-looking man, of ease of manner and of courtly address, a most excellent and ready linguist – all this showing his breeding and language. A cultivated and highly educated and trained scientist.

Mt. Diablo

No. 9514. Ribes malvaceum Sm. Half-way up to summit; bare southerly slope, road from Mt. D. Country club. in fl.

No. 9515. Zauschneria californica Presl. Southwesterly slope in open woods, half-way up. in fl.

No. 9516. Heteromeles arbutifolia Roem. in fr. = Photinia arbutifolia Lindl.

No. 9517. Salvia mellifera Greene. Common south slope at the lower altitudes above the foothills.

No. 9518. Dicentra chrysantha H. & A. Higher open slopes; it loves broken ground!

No. 9519. Salvia columbariae South slope, chamise ridge.

No. 9520. Oenothera micrantha Hornem. ~~eited~~ = Oenothera hirtella Greene Capsules & seed.

No. 9521. ~~var. jonesii Jepson.~~ = Camissonia intermedia Raven Seed of this cruciferae sent to garden, Dec. 1921.

= Lepechinia

No. 9522. Sphaerale calycina South slope, Chamise ridge.

No. 9523. Delphinium hesperium Gray. det REL 10/8/54 Dead ripe capsules.

No. 9524. Fritillaria Dead ripe capsules.

– Drove to Diablo with my assistants Miss Newlin and Miss Stuart. We saw Blue Jays, on the way, burying acorns. From the summit of the mountain the whole Coast Range and Great Valley country was buried or drowned in an inky lake – the heavy pall of smoke that was like a fluid body with a level surface. No Coast Range peaks appeared above this lake floor; but St. Helena's sloping summit by a darker line betrayed its position at the very level of the smoke fall. The Sierras remedi-

Mt. Diablo, Nov. 19, 1921.

ately eastward showed fairly well; and we probably saw the Lake group, — Pyramid Peak and others. It was a strange sight. Toward sunset when the smoke was less dense and gave an artistic effect to the cañons.

Lake Alpine, Marin Co.

Dec. 11, 1921.

— Walked from Ross to Lake Alpine and back to Fairfax with Prof. Walter Mulford.

No. 9525. Pellaea ornithopus Hookr.

Gravelly outcrop of ridge, rigidly erect. Stipes very stiff & wiry.

No. 9526. Dryopteris arguta (Kaulf.) Watt (Det. Tryon, 1958)

Shady bank

= P. mucronata var. mucronata

No. 9527. Pellaea ornithopus Hook.

Rocky outcrop.

No. 9528. Polypodium californicum Kaulf. var. Kaulfussii, Fort Barry. Crevices of rocks and mossy banks. Eat.

No. 9529. Rumex (Discarded)

Leaves fleshy, bright green, somewhat shiny, truncate at base & almost subcordate in appearance. Ft. Barry

No. 9530. Lemna

No. 9531. ~~Zebrina pendula~~ marsh Jaboracea (Naud.) Ft. Barry. Green

No. 9532. Mesembryanthemum aequilaterale. Ovary cells 8, 10, 10. Petals linear - oblanceolate Ft. Barry. Ft. Baker.

— Walked from Sausalito to Fort Barry, at the outer entrance of the Golden Gate, with the Cal. Bot. Soc. Three High School lads, Harland and Francis Frederick and another boy were along. They added much to the liveliness of the day. They played too near the surf and Harland got ducked. He took off his shoes to dry them by our beach fire and one

shoe was badly burned. Indeed both shoes were in great danger of burning up. But he managed to tie the burnt shoe onto his foot. On the way back we came thru the tunnel. The boys hid in the dark recesses and when I came along rushed at us as brigands with great shouts: I replied in kind: "Lay on, foul fiends, and damned be he that first cries, hold enough!" This delighted them greatly.

The little groves of Eucalypti in cove facing the Golden Gate are badly burned by frost on the easterly sides. The trees facing the first impact of the recent killing north winds were whitened by the frost. This is the first time I ever saw mature Eucalypti killed by frost in central California.

— went to Stockton to talk to the Philomathean Club in behalf of the Save the Redwoods League. The day was hazy and cloudy but the ranges still showed the fall of snow of last Sunday. The inner Coast Range, as we viewed it from the plains of the San Joquin, showed heavy snow. The higher mts. were streaked and patchy because of trees and shrubs, but the middle grasslands were one unbroken unspotted field of white. As the range stretched southward this middle zone of spotless white ran lower and lower until finally in the far distance it touched the plain or floor of the San Joaquin. Now it did not really do so; but the curvature of the earth's surface made the illusion and really shut out the dark low foothills so that the eye saw just over the curvature, the base of the middle snow zone.

Berkeley. Feb. 22.

– It has been very cold during Dec. and especially January, with white frosts twice the normal, continuing into Feb. High winds in Dec. & Jan, doing much damage. Snow at end of Jan. Precip. half normal in Jan. It is now, Feb. 22, getting a little warmer, but precip. has been heavy in Feb. Snow drifted 2 to 3 ft. deep in Berkeley Hills in Jan. storm.

– N. J. Anderssen, coll. at Colana in 1852 (?). Cf. Mem. Torr. Club, 1:20

– Bridges, Thos. Pellaea bridgesii, named for him by Hooker, will keep his name in remembrance for long in California.

Lake San Andreas.

– Scoliopus bigelovii Torr. Slugs are eating the flowers.

No. 9533. Calochortus albus Dougl. Millbrae. Leaves 27 in. long, 1½ in. wide!

No. 9534. Cytisus scoparius Link. This is truly spectacular and has spread along the roadway for a mile or more, about the summit between Millbrae and Lake San Andreas. The thickets are dense but do not spread far into pasture land.

No. 9535. Sanicula arctopoides H. & A. Lake San Andreas, San Mateo Co.

No. 9536. Dirca occidentalis Gray. This is very attractive at this time and gives a lacy effect to the winter woods. The flowers are small but borne in great numbers. We saw some very attractive shrubs. Lake San Andreas. One shrub was full 11 ft. high!

No. 9537.

Lichen on board fence. Lak

c. 600 ft. Millbrae, Mar. 19, 1922.
San Mateo Co.

San Andreas.

No. 9538. Aspidium rigidum var. argutum Eat. Abundant in the woods, plainly evergreen, Lake San Andreas.

No. 9539. Corallorhiza striata Lindl. Lake San Andreas. Woods.

No. 9540. Ribes californicum H. & A. Lake San Andreas. 4 to 6 ft. h. Ovary glabrous and smooth. Petals white, truncate, involute Calyx a little pinkish in bud, mostly greenish in anthesis, but often pinkish. Leaves not glandular, very small for R. californicum. Style glabrous.

– Disporum fullonum. Common about Millbrae.

No. 9541. Umbellularia californica Nutt. We stopped to rest under a very large tree whose crown draped to the ground. All around

c. 600 ft. Lake San Andreas, Mar. 19 1922.
San Mateo Co.

it grew on the flat, west side of stream about 2 miles south of the Lake San Andreas dam. Its crown was about 90 ft. broad; height about 78 ft.

No. 9542. Osmaronia cerasiformis Nutt. ♂ only collected, the ♀ not noted.

No. 9543. Ribes californicum H. & A. Ovary with long slender non-glandular bristles.

– Holodiscus discolor 11 ft. h.
– Aesculus californica Nutt.
– Ceanothus thyrsiflorus Esch. 12 ft. h. crown-sprouting.

No. 9544. Pedicularis densiflora Bth. Bare slope of hill just above (East) a clump of oaks, on Buriburi Ridge.

No. 9545. Fragaria californica C. & S.

No. 9556. Dodecatheon hendersoni Gray var. Bernaliannum Greene. Leaves yellowish a little, and

Lake San Andreas, Mar. 19, 1922.

c. 600 ft.

fleshier than in the ordinary form. Buriburi Ridge.

Went to Lake San Andreas with the Bot. Soc., walking from Millbrae and returning over Buri-buri Ridge to Burlingame.

— East Hall is being moved from its old-time position to a place south of Strawberry Creek near the Museum of Vertebrate Zoology, via the College ave. bridge. There was much tree-cutting to make passage for the building. Trees were cut as follows:

East Drive, 4 oaks.

College ave, nine large elms and maples on west side of street.

Women's Basketball Court, 16 acacias & allied trees.

Physiology Building, 3 acacias on south side.

Tracy Apr. 1, 1922

The total is 32 trees. The street-trees were about 30 years old, maybe forty.

— Drove to Tracy Apr. 1 in order to lecture on behalf of [Redwoods League for] Tracy Women's Club, at 8 p.m. When I arrived no one there except 2 men. Gradually hall filled up and I was introduced by the madam President a 9 p.m. Slides well projected. Afterward they had games, then a banquet. Each man was called upon to respond to a toast. Three-fourths chose to speak about trees. Now these men looked like and were fair the average run of men in a small town, shop-keepers, salesmen, a few farmers, Nearly all were visibly embarrassed when they were called upon but each in his own way expressed an original sentiment about a tree or some experience in the wild woods, the language was not polished but "it was simple and direct and full Lincolnian in its force and simplicity."

Corral Hollow, Mt. Hamilton Range.
W. San Joaquin Co. (see bottom p. 55) c. 500 ft.

No. 9557. Plantago
Gravelly flat, mouth of Corral Hollow.

No. 9558. Gilia tricolor Benth.
With 9557.

No. 9559. ~~Montia~~ Claytonia perfoliata Donn ex Willd.
Lower part of Corral Hollow.

No. 9560. Oenothera graciliflora H. & A.
Gravelly flat.

No. 9561. Plagiobothrys canescens Bth.
Gravelly flat.

No. 9562. ~~Layia~~ ~~glandulosa Hook~~ Madia radiata Kell.
det RCB. 12/57
Gray. Clay hilltop.

No. 9563.

No. 9564. Trifolium gracilentum T. & G.

No. 9565. Phacelia ciliata Benth.
Clay hilltop; with 9562. Corolla blue. Scales at base of fils. orbicular in general outline. See sketch with spms. cf. No. 9566.

c. 600 ft. April 2, 1922

No. 9566. Phacelia douglasii (Bth.) Torr.
Steep rocky slope. Scales long and narrow, widest at middle, straight, longitudinally attached, the pairs parallel. See sketch with spms.
cf. 9565. See also 9593.
= P. fremontii Torr!! not P. douglasii.

No. 9567. Tropidocarpum gracile Hook.
Flats along the creek.

No. 9568. Layia platyglossa
Clay slope, gentle hill.
Rays 6 to 8 lines long. Rays 8, 8, 8, 7, 8. Rays gold-yellow, white on upper third. Pappus-bristles many, not hairy or plumose. Achenes silky-puberscent. Ray achenes of- compressed (dorsally flattened), glabrous, no pappus.

No. 9569. Ellisia membranacea Bth. This is the same as no. 9585 but was farther down the cañon.
↑ collected

— Corral Hollow, west half in Alameda Co., east half in San Joaquin Co. All my plants were collected in San Joaquin Co., on this trip.

Corral Hollow, Mt. Hamilton Range (w. San Joaquin Co.) c. 600 ft.

No. 9570. Baeria

Sandy flats. This was common, especially near the lower part of the Hollow.

No. 9571. ~~Lichophragma parviflorum T. & G. Lebland affinis Bot.~~

Petals white, deeply cleft, turning pink in the press.

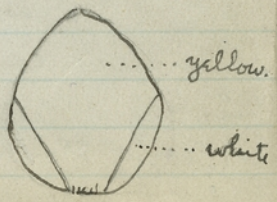
No. 9572. ~~Brodiaea~~ Dichelostemma multiflorum ~~capitata~~ (Benth. Heller)

Sandy hillside.

No. 9573. Tropidocarpum gracile Hook.

No. 9574. Platystemon californicus Benth. var.

Petals sulphur-yellow with a band of white on each side toward the base.



Sandy flats.

c. 600 ft. April 2, 1922. 57

No. 9575. Plagiobothrys tenellus Gray.

Gravelly flats.

No. 9576. Oenothera gracilipora H. & A. drawing from this. see p. 62

No. 9577. Chenopodium californicum Wats.

No. 9578. Salvia carduacea Bth.

Called Prince of Persia here.

No. 9579. Capsella bursa-pastoris (L.) Moench. Abundant, forming large colonies in rich spots on the flats.

No. 9580. Astragalus nigrescens Nutt.

Dry flat. = A. gambelliannus Sheld.

No. 9581. Trifolium tridentatum Lindl.

No. 9582. Gilia capitata. Sims ssp. staminea (Greene) A. & V. Grant ~~achilleaefolia Bk.~~

Sandy flat. ~~= G. staminea Greene.~~

No. 9583. Phacelia curvipes Torr.

This is a diminutive species. It grows in a sandy pocket between the rocks at the very summit or eastern

Corral Hollow, Mt. Hamilton Range.
w. San Joaquin Co. [see bottom p. 55] c. 600 ft.

end of the Castle Rock. Some other dwarfs grew with it. A small-flowered Nemophila and 9584. Seed of the Nemophila taken, only.

No. 9584. Athysanus pusillus Greene

No. 9585. Elliaia membranacea Bth.

Tops of cliff-talus, Castle Rock (see p. 61). This is exactly like the material used for drawing ~~the~~ Elliaia membranacea Bth., coll. Berris Hill, Harriet Kelly. It has the oblong or exclamation point lavender spot on the "petals" below middle; ciliated calyx-lobes; hairy ovary; "scales" consisting of pairs of long-oblong papillae without hairs. They are really like glands. I am glad to see this because it indicates a wide distribution of a definite type. It also indicates that Mrs. K's latest sending, differing only in rounded papillae, belongs to this type. See p. 63.

San Joaquin Co.

No. 9586. Lepidium nitidum Nutt.
Castle Rock, Corral Hollow; see p. 61 at bottom.

No. 9587. Gilia tricolor Bth.
Gentle slopes near Castle Rock. This slope was blue with it — a large area — a delicate blue from a distance as if the sky had fallen on the hill in a patch.

No. 9588. Urtica urens L. Outer sepals 5 times as large as the inner, the inner ones scarcely ciliate or not at all so. Castle Rock.

No. 9589. Orthocarpus purpurascens Benth.. Forming patches of several acres in the fields of grain. (Drawing from this.). Tracy.

No. 9590.
Near Castle Rock, lower part of Corral Hollow.

No. 9591. Stellaria nitens Nutt.
Grainfields near Tracy.

No. 9592. Pectocarya penicillata A. DC.
Summit Castle Rock.

Corral Hollow, Mt. Hamilton Range.
W. San Joaquin Co. c. 600 ft.

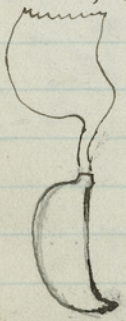
No. 9593. Phacelia ciliata Benth.
Grainfields near Tracy.
In every way except habit this seems the same as no. 9565. It has the same hairy ovary seated on a small glabrous disk. The scales are fundamentally the same. The corolla of 9565 seemed a deeper blue in the field; but there is no dif. side by side in the lab. Style is blue in both and parted the same way. Scales rounded, entire; in 9565, obscurely toothed(?).
Cont. p. 61.

No. 9594. Amsinckia intermedia F. & M. This is known as "fireweed" in the fields about Tracy; also as "Siccato Gorda", perhaps Zaccato Gorda?; valued as a dry feed.

No. 9595. Monolopia major DC.
Called Downy-back Daisy at Tracy. Very abundant on hills-lopes and in grainfields. The low hills west of Tracy had great sheets of it for four miles. Rays 8, 8, 8, 8, 8, 9, 8 Rays 5 to 7 lines long. Corolla

tube with scattered gland-tipped hairs, both ray and disk. Pappus none. drawing from this.
Cont. p. 62.

- Cont. no. 9562. Corolla tube with gland-tipped hairs. Pappus none! Ray achenes rounded on the back, a little obcompressed - that is flattened from the sides, perfectly glabrous, as also the disk achenes.



Ray achene.

Disk achene not apiculate. Ray achene apiculate! the apiculation set on the edge of ventral angle, so to speak, a little.

- Cont. no. 9593. There does not appear to be any difference in the scales of the two forms; or, if any, the difference is negligible.

- Castle Rock is in lower part of Corral Hollow.

Corral Hollow; c. 600 ft.
w. San Joaquin Co.

- Cont. no. 9562. Rays 6 lines long, 4 1/2 lines broad, 3-toothed. Corolla limb with a fringe of hairs on the back of the lobes, these hairs really very straight and bristle-like!

No. 9596. Baeria tenella Grane

Pappus clear white, with 4 oblong toothed palea on each side, each set looking like one large palea; one bristle on each side. Rays 10, 10. By far the vast majority of the flowers have 2 pappus-bristles; the palea mostly 2 on each side. Receptacle strongly conical. Drawing from this. ↑slender

Rays 8, 8, 10, 8, 10, — 2 2/3 lines long. Rays oblong. — Tracy.

— Cont. no. 9576. Filaments lanceolate. dilated, about 1/4 or 1/5 as long as the petals. Stigma capitate, slightly exceeding the anthers. Filiform calyx-tube 1 3/16 in. long. Petals 4 to 5

lines long. Stamens very short. Calyx-lobes hairy. Ovary lightly pubescent, 4-angled, the angles projecting into strong horn-like lobes at the summit; or rather, above.

- Cont. no. 9585. Even the slender smaller-leaved forms have the same characters. I found it common up and down Corral Hollow.

No. 9597. Linanthus dichotomus Bth.
Gilia dichotoma Gray.

Gentle open slopes. [I brought fresh plants to the laboratory. For five days they opened very promptly at 4 or 4:30 o'clock.] Drawing from there.

- Came to Tracy last night to lecture for the Save the Redwoods League. Today was taken out to Corral Hollow by Mr. and Mrs. A. R. Arnold of Tracy. Cultivated people who have taken the Amalfi drive and been on the Nile.

64 Berkeley, Apr. 16, 1922.

No. 9598. Ribes divaricatum Dougl.
Plants from 3 to 7 ft. high; stems mostly bending over
Stamens exceeding the calyx-lobes; styles hairy; calyx-tube hairy a little; ovary glabrous and smooth.
April 11, 1922.

No. 9599. Collinsia sparsiflora F. & M. var. collina (Jepson) Newsom
San Pablo Valley. Apr. 16

No. 9600. ~~Stellaria~~ Cerastium viscosum L.
San Pablo Valley, Apr. 16.

No. 9601. Lepidium nitidum Nutt.
San Pablo Valley, Apr. 16.

- Case, E. T., the schoolteacher and friend of J. G. Lemmon, is living at Downeyville. He collected Astragalus casei and Corydalis caseana but stopped short after the dried-personal influence of Lemmon was no longer exerted.

65 Peaceful Glen, nw. Solano Co. 200 ft. Apr. 21, 1922.

No. 9602. Mimulus tricolor Hartw.
Mud-dried pools.

No. 9603. Nemophila menziesii Hook.
This plant made a fine show in the lower parts of grain fields. Scales oblong, hairy on edge, about parallel, the tip slightly rounded and non-ciliate.

No. 9604. Thysanocarpus radians Bth. This is abundant on the gentle slopes of the low foothills and is found in colonies 5 to 20 ft. square, the plants standing so thickly in these colonies as to make pinkish or pale straw-color spots in the grassy fields. No two colonies were exactly alike, in a field of forty acres, differing only slightly, but I felt that I could detect some differences in certain colonies that were obvious

Near Peaceful Glen, nw. Solano Co.
100 ft. (see p. 114a)

to the eye. This number is pink-winged, the fruit-body covered with a fine felt.

No. 9605. Physanocarpus radians Bth. See no. 9604. Collected in same field. Wings white, that is pale greenish-straw-color, the body finely tomentulose or with a very fine felt as in 9604.

No. 9606. Physanocarpus radians Bth. Body glabrous, the pod smaller a little than in 9605, otherwise the same. with 9605, i.e. in same field.

No. 9607. Limnanthes rosea Harkn. Mud-dried pool bottom and along its sides. Cor. white, fading rosy.

No. 9608. Eschscholtzia lobbii Greene. Common on gentle slopes.

No. 9609. Lupinus micranthus See p. 114b. Common in spots. Flowers fine, center banner white, fading purple.

No. 9610. Alopecurus saccatus Vasey (DET. Beecher Crampton, Mar. 1972)
This grass grew in the swales.

No. 9611. ~~Alloearyja~~ greenei Greene.

No. 9612. (discarded, insect damaged) Achyrachaena mollis

No. 9613. Trifolium depauperatum Desv.

No. 9614. Layia ~~platyglossa~~ chrysanthemoides (DC.) Gray. ~~Gray.~~
Pappus bristles unequal, the two at the longer than the others. Angles of the achene fringed.

No. 9615. Viola pedunculata T. & G.
170 ft. Mile Square Hill near Vanden.

No. 9616. Allium serratum
170 ft. Ovary lobes lightly creased lengthwise, ending above in 2 erect teeth. Per. 4 3/4 lines long. Ovary apparently on a short column or stipe. Mile Square Hill, Vanden, 170 ft.

No. 9617. Lasthenia conjugens Greene.
Summ. 3 m. ne. Rays 16, 15. Corolla

Suisun, 3 mi. ne., Apr. 21, 1922.

Solano Co.

30 ft.

tube with short spreading glandular processes, that is hairs, a very few above on the throat. Ovary glabrous. Back of rays with glandular hairs! Involucral bracts united half-way up! the free portion ovate, very acute.

No. 9618. Allocarya stipitata Greene.

Subalkaline flat.

No. 9619. Astragalus lenei Gray.

Low subalkaline flats 3 mi. ne. of Suisun. Grows in patches and is wonderfully clover-like. Cor. purple, the banner and wings white-tipped. Keel 1/2 as long as banner, the wings 3/4 as long. Banner notched.

No. 9620. Lepidium latipes Hook

with 9619.

Stem erect, the leaves entire, forming a long tuft above the head of pods. Leaves linear. Stem one.

with 9619.

75 ft. Rockville, w. Solano Co. 21 Apr. '22.

No. 9621. Trifolium fucatum Lindl.

With 9619. In this field each clover plant of this species had an individual color pattern on the leaflets. No two were alike! The patterns consisted of white markings on brownish or blackish markings.

No. 9622. Iris missouriensis

Sepals whitish, pale lavender veined, a yellowish spot in middle, the spot just at the end of a median ridge which arises at base and runs to about middle of sepal and there disappears. Petals 1 in. broad. Stylar branches white, 4 lines broad, serrate at apex, the slit at apex 5 lines deep. Rockville, on the flat.

No. 9622a. Plagiobothrys canescens (Nees) Greene.

No. 9623. Montia fontana L.

Low flats where water has stood in winter.

Napa Junction, Apr. 21, 1922. 70 ft.

No. 9624. Orthocarpus faucibarbatus Gray. Corolla: folds of sacs inside pubescent. This grows in low fields and is very luxuriant. Corolla-sacs sulphur-yellow! It is common all thru this district as far as Vallejo.

No. 9625. Scandix pecten-veneris L.

This umbellifer was weakly represented in the grain fields. Leaves pinnate or bipinnate, the segments (roundish in outline) palmately dissected. Both ♀ + ♂ in same cluster, the latter few or one, the former with stamens also. Outer flowers with the outer petal enlarged! Styles with a very marked disk-like stylopodium!
↑ or dish-shaped

No. 9626. Thysanocarpus curvipes Hook. Peaceful Glen.

Peaceful Glen to Suisun via Vanden
Solano Co. 200 ft. Apr. 21, 1922.

The slopes about Peaceful Glen were in radiant bloom. Eschscholtzia lobbii made yellow spots in the fields. Nemophila menziesii has here adapted itself to cultivation. I found it in grain-fields and in vineyards, in fine development! Everything much later than usual.

Mile Square Hill, 1 mi. n. of Vanden, was in glory, with its colonies of Allium serratum, more than I have seen elsewhere in like area, and Viola pedunculata T.+G.

Even the dreary semi-alkaline flats thru. Vanden and Suisun, dreary in the dull summer time, have now a delicate evanescent beauty. Some fields were widely spread with colors, with white of Allocarya stipitata and yellow of Lasthenia conjugens.

No. 9627.

see p. 73

No. 9628. Alchemilla occidentalis Nutt. ~~arvensis Scop~~

Stamen 1. Style filiform, arising from the base. Abundant on the low open hills near Cerrito Creek.

No. 9629. Evax sparsiflora Jepson.

♀ flowers without pappus and with slender filiform corolla, one in the axil of each bract of the involucre; in the central "cup" of the involucre are 4 ♂ flowers with corollas.

I count 6 bracts with ♀ fls, these are imbricated; the receptacle is prolonged upward as a slender or thread-like organ bearing 3 bracts in a whorl at apex, these 3 forming a cup with 2, 3, or 4 ♂ fls. The lower involucral bracts are imbricated, erect, and approximate around the upper bracts in such a way as to form the "cup", that is the lower bracts

are longer and reach up to the apices of the upper bracts. ♂ fls. about ½ line long.

I find that all the lower bracts are fertile, that is bear ♀ fls; the upper bracts appear to be 5, in a whorl. The lower bracts are rigid and form a short-cylindric body bearing in it, on a stipe-like organ (the produced receptacle) and at apex of the stipe-like organ, a cup-like whorl of 5 bracts which have 2, 3, or 4 male flowers. These latter bracts are more woolly. Pappus none. Male fls. red-brown, ½ line long.

– Cont. from p 71. No. 9627. This grass grew in the beds and along the margins, especially the latter, of former spring pools.

No. 9630. Lonicera involucrata
Strawberry Canon, Apr. 30.

No. 9631. Berberis pinnata Lag. 2-3 ft. h. Rocky outcrops in the hills. Sepals 9: 3 small outer ones, three caducous; 3 larger, ovate, reflexed from the middle, persistent longer than the first 3 but soon falling; 3 large, obovate, curling over the petals, as rather ascending over the petals. Petals 6, all of one size. Cont. p. 75

No. 9632. ~~Echinocystis~~ Marah fabacea (Naud.) Greene

No. 9633. Prunus emarginata Walp.

This forms a small colony dominant on perhaps half an acre. The plants vary from bushy shrubs 4 ft. high to slender trees 26 ft. high with trunks five inches in diameter. I noticed only one which reached the largest size named. They are in full flower now and make an attractive group at the northeasterly base of Sugar Loaf.

The odor of the "deciduous fruit" orchard was distinctly there.

- Cont. from p. 74. no. 9631. All the flo. examined were full of small whitish larvae lying between the petals and the stamens. In Engler & Prantl, the 6 inner perianth organs are regarded as honey-organs; the outer as "Kelch-artig", the middle ones as "Kronen-artig".

I do not see any "basal glands" on petals of 9633 as described by authors for the petals of Berberis.

- L. H. Weld of the Bureau of Entomology just called. He finds the same cynipid galls on all the species of the chrysolepis group of Quercus - chrysolepis, vaccinifolia, tomentella, wilcoxii and one other; and suggests that there are really all one species. He

Berkeley, May 5, 1922.

investigated the galls of California oaks during the war as a substitute for the Aleppo gall which forms the basis for record ink. The per cent of tannin not sufficiently high. Materials high in tannin split with a glassy fracture. The Aleppo gall does this. A spiny leaf gall on the under side of leaves of Quercus douglasii fractures easily and suggests high tannin content. Weld has been traveling by auto all thru the west since last Sept. — May 5, 1922

— Roezl Cal. collector. Cf. Bot. Gaz. 48:462.

— Greene, E.L., on his way to Guadalupe and Cerros Islands (West. Am. Sci. 1: 32, — Apr. 1885.).

— Californian Botanical Collectors. Data may be had of certain men in West Am. Sci., early vols.

North Berkeley Hills*, May 11, 1922.

Contra Costa Co.

No. 9634. Ceanothus thyrsiflorus Esch. Hollow in the hills.

No. 9635. Psilocarphus tenellus Nutt. var. tenellus

Leaves of involucre 1 to 2 times as long as head, spatulate-oblong. ♂ fls in center 8, 7, 8. No chaffy bracts at all!

No. 9636. Lotus subpinnatus Brag.

No. 9637. Plantago erecta Morris. Adobe soil.

No. 9638. Spiraea menziesii H&A.

No. 9639. Acaena trifida R. + P. =A. californica Bitter

Rocky outcrop, north slope. Prime segments 7 or 5. I find 3 to 5 stamens (in one infl.); I find no fl. with only 2 stamens. = A. pinnatifida var. californica Jepson.

* Contra Costa Co.

May 15, 1922.

No. 9640. Mimulus guttatus DC. Det: A.L.G.
Swamp.

No. 9641. Phacelia imbricata? Greene.
Rocky hilltop, dominant on the grassy top, 100 X 40 ft. = P. calycosa (gray).

No. 9642. Wyethia helenioides, Nutt.
Grassy hillslopes See p. 79.

No. 9643. Rhus diversiloba T. & G.

May 18, 1922

No. 9644. Melilotus indica All.
Moist spots.

No. 9645. Hypochaeris glabra L.
Dry hillside

No. 9646. Wyethia angustifolia Nutt.
Hill shoulder. See below.

No. 9647. Matricaria ~~discoidea DC.~~ matricarioides (Less.) Porter
Berkeley. Beaten ground. May 18.
= M. suaveolens Buch.

-Cont. 9646. Rays 10, 10, 11, the ligule 1 3/4 to 2 in. long. Bracts of the invol. lance-ovate or perhaps better oblong-ovate, x contracted

at base to a distinct and definite but very broad or ligulate "petiole", this petiolar base purplish-black the margin woolly or soft-ciliate or pilose-ciliate, the upper side pilose, the lower side glabrous or nearly so. Herbage in general almost glabrous (or at most sparingly pubescent), not woolly. Achenes with one strong spine-like bristle. Corolla inflated a little above the base and at that point bent or kneed!

-Cont. no. 9642. Herbage and bracts thinly lanuginose, especially the stems below. Bracts broadly lanceolate from a broad base, green throughout, no purplish spot at base! Pappus of about 4 unequal palaceous scales.

No. 9648. Marah ~~Echinocystis~~ fabacea (Naud.) Greene
May 11.

x or better still: oblong-lanceolate or oblong

No. 9649. Heuchera micrantha Dougl. Petals white, oblanceolate, recurved. Calyx white, its short teeth incurved and carrying a green spot, the whole calyx soon becoming pink. - Face of rock cliffs. Stamens 5; ovary half inf.

No. 9650. Diplacus aurantiacus (Curt.) Jepson. Very beautiful salmon-color fls.

No. 9651. Achillaea millefolium L.

No. 9652. Microseris linearifolia Sch. Bip.

No. 9653. Arctostaphylos Stanfordiana Parry. Cluster of the shrubs 4 or 5 ft. h., about halfway up mt. In the field I have little doubt that this is A. stanfordiana. Its leaves are remarkably vertical; they are small. The small berries, with the very

dark red blush on one side is also strongly reminiscent of that species. The leaves are thick - the only point against the reference that I notice. There is no crown-sprouting! The shape of the leaves recalls those of stanfordiana.

No. 9654. Helianthella castanea Greene. Bracts linear-lanceolate, bifid, ciliate*, the tips after anthesis strongly incurved over the disk. Bracts of the involucre subblended by a more or less complete whorl of very unequal foliaceous bracts. Rays 11, 12, 14, 14, 16. Scales of the receptacle with a dense tuft of hairs at apex, their tufts appearing in the disk as seen from above, since just as long as the corollas. They are

* glabrous below and essentially glabrous above.

units in the tessalation, if one may compare it to a tessalated floor. The achenes are very much flattened, somewhat cordate at apex. The disk ones are all fertile except a central cluster of 15 to 30 flowers which are quite sterile! The ray flowers are wholly sterile and their fls. have very small ovaries from the start of anthesis.*

Cont. p. 86.

No. 9655. Cirsium coulteri Harv. & Gray. This thistle is common along the roadway, upper third of the mt. It loves broken ground and suggests local introduction. It is abnt 3 ft. high. Both lavender and white heads are abundant.

* This plant grew on the very tops of the mt. at the wagon camp and was abundant.

No. 9655a. Pedicularis densiflora with 9663.

found in the same 10 sq. ft. of a colony.

No. 9656. Phacelia brewerii Gray. Land-slips near summit. Corolla 2 lines long, pale blue. Appendages to stamens a pair of vertical scales, linear in outline, not hairy. Calyx cleft nearly to the base, its lobes linear, hispidulous or better hirsutulous. Calyx a little over half length of corolla. Stam. glabrous, a little shorter than the cor. Ovary densely hirsute with white erect hairs. Style very sparingly short-hairy.

No. 9657. Psoralea californica Wats. Prostrate, near summit. Very Keel 2/3 length of wings; wings about equaling banner*. Banner bluish white, wings purple. Calyx-lobes linear-acuminate (very hairy), nearly (4/5) as long as cor.). calyx-lobes 2 x as long as tube. Grows on land slips Root very stout.

* a little shorter than banner. Flowers 6 lines long.

No. 9658. Delphinium variegatum T. & G. Grassy open in the woods

Mt. Diablo

No. 9659. Microseris heterocarpa

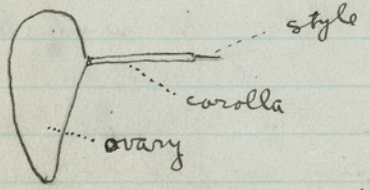
No. 9660. Arctostaphylos manzanita Parry. Two living shrubs and one dead one. Neither flowers nor fruits. No crown-sprouting. The dead shrub is dead after the fashion of this species. I feel sure from its general appearance and its leaves that this is A. manzanita; but neither this nor 9658 have ever been reported from south of this bay before.

No. 9661. Salvia columbariae Bth. On land-slips.

No. 9662. Arctostaphylos auriculata Eastw. This seems more like a cordate variety of A. glandulosa than like A. andersonii. It grew in a heavy clump, and evidently crown-sprouted. Obtained by Dr. Bode (of my party). See no. 9737.

No. 9663. Sanicula tuberosa Torr. Flint woods in loamy soil, N. slope. see p. 88.

No. 9664. Microseris californicus F. & M. with 9663. I find no "scale-like processes on receptacle."



I find about 3 sterile fls. in center of head. The basal bracts are scarious with an herbaceous center.

No. 9665. Electritis with 9663.

No. 9665a. Pedicularis densiflora Bth. with 9663.

No. 9666. Physanthocarpus cuvipes var. ~~suaveolens~~ elegans Rob. with 9663

No. 9667. Agoseris heterophylla with 9663.

No. 9668. Hypochaeris glabra L. with 9663.

No. 9669. Microseris linearifolia with 9663.

No. 9670. Siogrinchium bellum. with 9663.

Mt. Diablo, May 23, 1922

– Cont. no. 9654. The achens are strongly flattened, but flattened sideways, that is ofcompressed! so that the subtending bract of the receptacle embraces the edge of the achene! In Wyethia the thin bracts of the receptacle are fully 1½ times as long as the achenes; in Wyethia angustifolia the bracts are nearly twice as long as the achenes. In H. castanea the bracts scarcely equal the achenes. Cont. p. 101

– Trip to Mt. Diablo with Dr. & Mrs. W.F. Bade and Miss Joyce Saunders. The day was very beautiful. The hills southeast were in green, with tawny shades and tones coming on the shoulders. The distant hills, the whole view in fact, was drowned in a thin purple gauze. We turned our heads partially upside down so as to get the advantage of the unused portions of the retina. The view was exciting!

Contra Costa County } North Berkeley Hills, May 26, 1922.

No. 9671. Trifolium wormskioldii Lehm. Marsh in the hills. Cont. slow.

No. 9672. Erigeron philadelphicus L. Marsh, a little standing water. Flowers white.

No. 9673. Agoseris hirsuta (Hook.) Greene. Bracts oblong-ovate, acute. Ligules yellow, burnt umber on back, much exceeding involucral bracts, forming a broad disk. Grassy hills.

No. 9674. Agoseris plebeia Greene. = A. grandiflora. Bracts narrowly elongate-lanceolate. Ligules yellow both sides, very short, scarcely exceeding involucre. Grassy hills.

– Cont. no. 9671. Calyx-teeth subulate, a little exceeding tube. Calyx ½ as long as cor. Wings 7/8 as long as banner; keel 3/4 as long as wings. Banner whitish; keel & wings purple. Banner notched. = T. involucratum Ortega.

— Cont. from no. 9655a This station is in the first cañon after one makes the turn around the point of the first ridge in going up the mt. There are some fine large sandstone rocks sticking up high out of the cañon, forming an interesting obsticle. See no. 9663. See no. 9655a.

— Cont. no. 9673. Bracts dull green or dull reddish-brown, but uniform or essentially uniform in color. Pedunicles in fruit not much elongated. Bracts more nearly one series than in 9674.

— Cont. no. 9674. Bracts streaked dark purple-brown and dull green. Pedunicles in fruit often 1½ times elongated. Bracts in several series.

Berkeley, June 1, 1922.

— Umbellularia californica Nutt. The Botany Building is being moved. The rollers under the skids are native laurel. They stand a lot of roughage and hammering and yet are light, easily handled.

Little Arthur Creek, Gilroy, May 28, 1922 c. 600 ft.
Santa Cruz Mts.

No. 9675. Arenaria douglasii Fenzl.
Stamens 10, those opp. sepals the longer and bearing a scale on the back at base. Rocky outcrop.

No. 9676 Glechoma hederacea L.
This mint grew near Bolfing Ranch.
= Nepeta hederacea Trev.

No. 9677. Prunus demissa virginiana var. Walp.
See p. 90. The shrubs along Moody Creek near camp showed spots of this gall. cf. 9710.

— Mr. Walker said: Marrubium vulgare (Horehound) and Nepeta cataria (Catnep): In the East these two species grow together under the same conditions. The former comes into California as a very common species in waste lands. Why does not the other one come with it? There are requirements for the growth of a plant which we do not apprehend as yet.

Little Arthur Creek, Gilroy
Santa Cruz mts., c. 600 ft.

No. 9678. Eriodictyon glutinosum Brth
Filaments glabrous or with 2 or 3 scattered hairs apiece. Calyx-lobes almost distinct. = E. californicum Greene.

– Dr. E. C. Van Dyke calls these gall-mites "an acarid of the family Eriophyidae". See his letter, June 7, 1922. This note refers to No. 9677.

– Miss Amy Rinehart says: The gooseberry in the Yosemite Region makes a red clear jelly that is very delicious. The berries are whipped off the bushes on to a sheet and cooked. When the mess is put in a bag to be squeezed out the spines go soft. [This is Ribes roezlii Regel.]

In Napa Co. settlers mix apples and Sambucus glauca berries for a jelly which is superior to jelly made from either.

May 28, 1922

Santa Clara Co

No. 9679. Lonicera hispidula var. californica climbing high over trees and shrubs. Fls. pink; buds red.

No. 9680. Rubus parviflorus var. velutinus Greene. Common in the woods.

No. 9681. Stachys (discarded — immature)
This mint grew along the road in a settled district, the spot being 1/4 mile from a farmhouse. Summit of the Santa Cruz mts. near Mt. Madonna. c. 1700 ft.

No. 9682. Arctostaphylos andersonii Gray. This grew along the ridge and formed large arborescent shrubs with good-sized trunks; 8 to 12 ft. high. Near Mt. Madonna. 1800 to 1900 ft.

No. 9683. Fragaria californica C. & S. 1900 ft. Woods in opens, about borders of thickets, fruiting freely. c. 1800 ft. Near Mt. Madonna.

No. 9684. Gnaphalium
Near Mt. Madonna. Opens in woods. c. 1800 ft.

Little Arthur Creek; Gilroy
Santa Cruz mts. c. 700 ft.

No. 9685. Ceanothus thyrsiflorus Esch. Shrubs 10 to 14 ft. high are in wonderful bloom; solid masses of bloom. I also saw individuals 20 to 22 ft. high. Near mt. Madonna. c. 1700 ft.

No. 9686. Oxalis oregana Nutt. Deep shady moist woods. Grëninger Creek, tributary of Little Arthur Creek.

No. 9687. Potentilla glandulosa Lindl. var. wrangeliana Wolf. Grëninger Creek

No. 9688. Arctostaphylos glandulosa Eastw. Heavily crown-sprouting from heavy platforms at ground. Grëninger Creek.

No. 9689. Calochortus tolmiei H. & A. In brush Grëninger Creek.

No. 9690. Rhamnus californica Esch. var. tomentella Grëninger Creek.

No. 9691. Ceanothus foliosus Parry. Grëninger Creek.

May 28, 1922.
Santa Clara Co.

No. 9692. Pickeringia montana Nutt. White-flowered form. These shrubs are very floriferous. I have never seen their species more so. They grew on the steep bank of a cut. They arose from roots of older plants undoubtedly. The top of the bank was crowned with a thicket of the same species, the flowering flood-red! the usual color!! Mutilation of the roots - root pruning, may have produced the unusual effect in the way of abundant bloom - but why white? I say "white"; it was white with a flush of pink - very much like a peach blossom!
Grëninger Creek

No. 9693. Orthocarpus purpurascens Benth.
Grëninger Creek.

Little Arthurs Creek, Gilroy
Santa Cruz mts. c. 700 ft.

- No. 9694. Eriophyllum exsertiflorum
Greninger Creek
- No. 9695. Galium andrewsii Gray.
Rocky outcrops, disintegrating rock. Greninger Creek
- No. 9696. ~~Gilia densiflora~~ Benth.
with 9665 + 9675 Greninger Creek.
= Linanthus grandiflorus Greene.
- No. 9697. ~~Hesperolinon micranthemoides~~ micranthum (Gray) Small
This lobelioid plant grew on a rocky slope. Greninger Creek.
- No. 9698. Microseris douglasii douglasii
Greninger Creek.
- No. 9699. Microseris californicus T. & G.
Greninger Creek.
- No. 9700. Convolvulus subacaulis Greene. Steep sunny slope. Greninger Creek
- No. 9701. Psoralea strobilina H. & A.
Brushy slope. Greninger C.

Santa Clara Co. May 28, 1922.

- No. 9702. ~~Gilia~~ Linanthus androsaceus (Benth.) Greene
Better det'd as Linanthus parviflorus Greene (W.L.J.). See p. 114a. Greninger Creek.
- No. 9703. Allium unifolium Kell.
Fls. lavender-pink. No crests; lobes creased down the middle.
- No. 9704. Collinsia heterophylla Graham. Fls. white. Greninger Creek.
- No. 9705. ~~Clarkia purdiana ssp. quadrivulnera~~ Godetia quadrivulnera Spach. Grassy open slope. Pets. with a large spot.
- No. 9705a. Trifolium ciliatum Nutt. = T. ciliolatum
with 9705
- No. 9706. Phacelia imbricata Greene. = P. calycosa (Gray). Rocky outcrop in open. Fls. white
- No. 9707. Microseris douglasii douglasii
with 9705.
- No. 9708. Sidalcea malvaeflora Gray. Both ♂ & ♀
- No. 9709. Eulogia bothrys canescens Bth. Open, trailing over ground. Carunc. of achene green with a fine hollow scar in it, like an insect puncture. achene brown.
- No. 9710. Prunus subcordata Benth. Fruits all diseased

Little Arthur Creek, Gilroy
Santa Cruz Mts. c. 1700 ft.
Santa Clara Co.

as usual, except one. Leaves also with another gall-type. See p 97.
See W. T. Horne in litt. June 27, 1922.

No. 9711. Chenopodium californicum
Flat

No. 9712. Viola ocellata T. & G.
Shade of woods.

No. 9712 a. Viola pedunculata Torr.
Little Arthur Creek.

No. 9713. Matricaria matricarioides (Less.) Porter ~~discoidea~~
Beaten ground near barn.

No. 9714. Psilocarphus tenellus
Nutt. var. prostratus, on flat.

No. 9715. Rumex salicifolius
Low fields near Mt. Eden.

No. 9716.
This grass grew in a field formerly cultivated. with 9715

(Mt. Eden in Alameda Co.) May 28, 1922.

No. 9717. Trifolium gracilentum T. & G. var. inconspicuum (Fraz.) with 9715.

No. 9718. Avena barbata Pott. ex Link
(Det. Beecher Crampton, Mar. 1922)
This grass grew with 9715.

— California Botanical Society. This trip was to the camps at Balfrog Ranch, Little Arthur Creek, Gilroy. Annual Camping Trip, Santa Cruz Mts. I took Professor Bradley with me. At the campfire Kellogg the Bird Man talked, in addition to Society members. [I talked on the plant history of the region]

— Cont. 9677. "The galls are the work of one of the gall mites, an acarid of the family Eriophyidae" — E. C. Van Dyke in litt, June 2, 1922. Those on #9710 belong to the same family.

No. 9719. (Stenotus) Haplopappus linearifolius DC.
Making a fine show on top of the mt. Drawing from this. Mt. Diablo. 23 May 1922.
See p. 86.

No. 9919a. Convolvulus subacaulis Greene.

Filaments narrowly linear-dilated at base, the lower 2/5 adnate to the corolla-tube, each fil. just above the point of adnation bearing one slender tooth on each margin, or sometimes one margin toothless. Fils. sparingly glandular short-hairy.

I have never noticed these structures before, nor do I find them noted in any text; not in DeCandolle or any subsequent place. The orig. place of publ. Beecher's Bry. does not notice them. This may be a species distinct from C. subacaulis but it looks just the same.

North Berkeley Hills.

I have looked over plants in the field and find the fils. toothed at base. [Near the Cora

Williams Institute the plants were not toothed! This is some distance from the Blake place, where the fls. with toothed filaments are found - say a mile.) The filaments are, however, noticeably glandular short-hairy on the lower part, i.e. the adnate part.

No. 9920. Convolvulus luteolus Gray. In the open, - climbing up grasses, the stems of the year arising from prostrate woody stems, size of a stout cord, and several feet long. Fils. finely glandular short-hairy.

No. 9921. Medicago sativa L.

This alfalfa grew in a field near Mt. Eden, where it may have been cult., but only a few plants now present. Taken on a trip to the Buttes at Las Altas, June 10, 1922.

No. 9722. Eremocarpus setigerus Bth.
Colonizing a playa on the flat and the only occupant (living).

No. 9723. Lythrum hyssopifolia L.
This gives every appearance of being annual. Winter pool bd.

No. 9724. Boisduvalia glabella (Nutt.) Walp. densiflora Wats.
Winter pool bd.

No. 9725. Centaurea
Vacaville, Little Oak Ranch.
This plant occurs along the Mile Square Road as far as the Big hill. At that point it is spreading into the mile square field, which in these days is uncultivated.

No. 9726. Eryngium vaseyi C.R.
Playas sw. of Vanden

No. 9727. Psilocarphus oregonus Nutt.
Quite dead; on the playa with 9722

– The trees look well and show the effect of last winter's rainfall. The buckeyes are still rounded and green – whereas at this time they are usually brown. The latest tree to leaf, the first to go.

– Cont. from p. 86. [no. 9654.] H. castanea seems to me an excellent example of a subspecies. I do not recall any that better meets the case. It has not a single technical character of separation from H. californica, and yet it seems to me so distinct! not by reason of just looking at it, but by careful study. There are many differences between the two but all insignificant. It is indeed a good subspecies.

– Mr. A. O. Garrett, of the Salt Lake City High School, is engaged on White Pine Blister Rust control and assigned to Cal. for this summer. He called this morning with S. N.

Wyckoff. He is stoutish, 5 ft. 10 in, rather dark complexioned, mustache, pleasant mannered. He said that mormons told him that Ribes aureum is called Soldier Berry in Utah because the invading Gentile soldiers in early days ate the berries and became ill. Wyckoff said Ribes cereum is called Squaw Currant and R. bracteosum, Skunk Currant. — June 29, 1922.

— Heermann, A. L. His three years residence in California. Journ. Acad. Nat. Sci. Phila. ser. 2, 2: 259-272 (1853). Cf. Grinnell, U. C. Publ. Zool. 24: 45 Also. Proc. Cal. acad. ser. 4, 7: 335 (1913).

— Private herbaria. E. J. Durand, Prof. of Botany, Univ. of Minnesota. His herbarium just sold to Cornell Univ. (12,000 specs.). See Sci. 57: 298 (9 Mar. 1923).

No. 9728. Jaumea carnosa Gray. Rays 9, 9, 12.

No. 9729. Orthocarpus

No. 9730. Limonium californicum Heller.

No. 9731. Cuscuta salina Engelm.

No. 9732. Eryngium armatum C. & R. Adobe flats

No. 9733. Lathyrus vestitus ssp. bolanderi Summit of El Cerrito.

No. 9734. Lythrum hyssopifolia L. Adobe flats

No. 9735. Centaurea melitensis. El Cerrito.

— Menzies, A. Cf. C. H. Newcomb, "Plants collected by A. Menzies on the Northwest Coast of America." See separate. 1923.

Mt. Diablo, July 14, 1922.

No. 9736. Arctostaphylos manzanita Parry. This is common in the very head of Sycamore Creek cañon, behind the range of Black Hills. One can look from the the roadway across the cañon and see these bright green spots rising above the general level of the chaparral and chamise. The shrubs are 6 to 14 ft. high. The individuals are not numerous, not rare. see p. 121.

No. 9737. Arctostaphylos auriculata Eastw. 12 ft. h. I managed to get thru the brush to a thicket of this. I found it a colony by root crown-sprouting. It was a colony of seedlings. It has a gray-green appearance at a distance. It seemed much less frequent than A. manzanita. Head of Sycamore Creek.

Monterey, July 20, 1922.

No. 9738. Verbena prostrata R. Br. Cañon del Rey, Monterey.

No 9739. Cotyledon (=Dudleya) caespitosa Haw. See p. 121. Slender, tall, the tufts or rosettes of leaves small and narrow. leaves linear-attenuate, almost cord-like. Calyx lobes triangular or, better, deltoid. Petals broadly ovate, acute, distinctly (sub-) joined at base. Filaments alt. petals with enlarged or dilated bases, far more distinctly so than in the case of the opp. fils. Corolla pale saffron. Bracts triangular-sessile. Leaves linear, acuminate, much thickened or rounded below and flat above, that is semi-terete. Branches of the cyme distinctly one-sided. Cyme open as compared with no. 9741.

Monterey

No. 9740. Centaurium muehlenbergii (Wright) ~~exaltatum Wight~~

Sepals linear-attenuate, strongly ridged on the back, as if conduplicate. Corolla lobes elliptic, obtuse. Cor. pink-red with a marked white eye-spot.

No. 9741. =Dudleya farinosa Echeveria cotyledon N. & McBr. Cotyledon farinosa Baker,

Plant white-mealy, much more so than in 9739. Calyx-lobes ovate, acute. Calyx less syncepalous than in 9739. However, the difference in shape of calyx-lobes is much more pronounced a difference. Flowers about the same size as 9739. Corolla pale-cream-color. Petals ovate, subacute, strongly fleshy-ridged on middle of back, distinctly united at base but the degree of union very narrow. Fleshy ridge on back no more than in 9739. Leaves very white-floury. cont: p. 107

July 20, 1922.

No. 9742. =Triteleia Brodiaea ixioides

Open pine woods, 1/8 mile from the beach.

Cont. below.

Cont: no 9741.

Leaves broadly oblong or oblong-ovate, acute. Racemes of cyme very short and infl. very compact. See p. 121.

No. 9742, cont: Per. tube ~~just~~ 1/3 as long as segments. Per. segments narrowly oblong-acuminate-or narrow-oblong. Ovary stiped! Per. golden with a broad brown band on back of segments running down base of tube, the color band narrower below.

No. 9743. Carum gairaneri H.f.A. with 9743a.

No. 9743a. Carum Kelloggii Gray.

Open pine stand back of Pt. Joe.

No. 9744. Sisyrinchium

Open pine stand.

No. 9745. Elymus condensatus Presl.
(DET. Beecher Crampton, 1972)

This grass is 8 ft. high!

Asilomar.

No. 9746. Corethrogyne californica DC.

Open pine woods back of Pt. Joe.

No. 9747. Astragalus menziesii Gray.
=A. nuttallii (T.+G.) Howell

Stems 2 to 2 1/2 ft. high, erect, at length diffuse and decumbent.

No. 9748. Chlorogalum pomeridianum (Eschsh.)

Flowers aging purple.

No. 9749. Navarretia squarrosa (Eschs.) H.+A.

No. 9750. Spergularia macrotheca (Hornem.) Heynh.

Pt. Joe.

No. 9751. Eryngium armatum C.+R.

Pt. Joe.

No. 9752. Euphorbia peplus L.

Monterey - Greene's garden. He

regards it as an insufferable pest. It seeds freely and germinates readily and promptly.

No. 9753. Eriophyllum

No. 9754. Spilacele calycina Bth. =Lepechinia

Corolla light purple. Asilomar.

No. 9755. Phalaris californica H.+A. near Pacific Grove

This grass was 2 1/2 ft. high. & 3 1/2

No. 9756.

This lichen grew on Cupressus macrocarpa

No. 9757. Phacelia malvaefolia Cham.

Under Cupressus macrocarpa at the Octopus Tree.

No. 9758. Elymus glaucus Buckl.

This grass grew in the open pine woods.

— Called on Bradley Moore Davis, Prof. Bot. Mich. He is a tall well-formed chap physically, good-looking, very pleasant manner. He said: "You are a much younger man than I expected to meet." Cont. p. 121

No. 9759. Arctostaphylos pumila Nutt. It is distinctly mat-like and 3 or 4 in. high. The prostrate stems root at the joints or adventitiously. Occasional portions of a colony become 8 to 14 in. high but the whole effect is the same - a low rough mat. Cont. p. 111. - Arctostaphylos vestita Eastw. is 4 to 5 ft. high. Its bark is shredy with the shreds persistent. This is its most marked feature. It crown-sprouts. It looks more like A. glandulosa Eastw. than any other species. It looks enough like A. glandulosa to be a variety of it but it may be distinct. See no. 9761.

No. 9760. Adenostoma fasciculatum H. & A.

[Nos. 9759 to 9767 were collected East of Hotel del Monte on the sandy flats and hills]

Cont. no. 9759. A. pumila Nutt. On the sandiest flats, typically it forms prostrate mats 6 to 10 or 14 ft. in diameter. In better spots of soil it becomes 18 in. or even 2 ft. (!) high; but the colonies are circular low mounds and the general effect is much the same. Circular colonies joining each other will be medium-green, light green, whitish (pubescent) and various shades between.

No. 9761. Arctostaphylos tomentosa Lindl. vacuda Eastw.

See p. 110.

No. 9762. Corethrogyne californica DC?

This composite is abundant on the sandy flats. See p. 120.

No. 9763. = Horkelia cuneata ssp. sericea (Gray) Keck Potentilla lindleyi Greene.

See p. 120. Not rare on the sandy flats.

No. 9764. (Ericameria) Haplopappus Eastwoodae Hall Sandy flats: Rays 3, 2

No. 9765. Croton californicus Müll. Arg. See p. 120.

No. 9766. Eriophyllum

No. 9767. Cordylanthus sylvaticus Jepson. = C. rigidus var. sylv. Jepson. See p. 119.

No. 9768. Ceanothus dentatus T. & G.

No. 9769. Hemizonia corymbosa (DC.) T. & G.

– At Monterey I stopped with that always interesting personage, Harry Ashland Greene, who has done so much for tree-planting in California. The trees along the highway near Folsom are his Coast Live Oaks. Similarly he has supplied trees for school grounds – of course always gratis – but he found it necessary to make onerous conditions as to planting and care which has proved a healthy education regarding trees. Cont. p. 115

No. 9770. Hemizonia Jigling sta. See p. 118.

No. 9771. Stephanomeria virgata See p. 118.

No. 9772. Cirsium ~~occidentale~~ coulteri (Nutt.) Jepson. 2 to 3 ft. h. Frequent.

No. 9773. Helianthemum scoparium Nutt. See p. 117.

Forming a heavy tuft in a new-made sand bank.

No. 9774. Gnaphalium Sandy bed of Salinas River at Neponset.

No. 9775. Scirpus campestris Britt. Low flats along the river, flooded at high water at high tide. Salinas River, Neponset.

No. 9776. Scirpus americanus Pers. With 9775. Pure colonies over very small areas.

Santa Cruz Mts. n. of Santa Cruz. SW. MARIPOSA CO.

No. 9776a Leanothus papillosus T. & G. 6 to 8 ft. h.

No. 9777. Corethrogyne filaginifolia (H. & A.) Nutt. var. rigida Gray. Scattered rather thickly over a little hillside open, the stems several to many in a cluster, erect. See p. 117.

No. 9778. Navarretia atractyloides H. & A. With 9777

No. 9779. Arctostaphylos glandulosa Eastw. Crowsperch. tomentosa var. covilla Adams

No. 9780. Dudleya Cotyledon caespitosa Haw. Scattered over the low sandy hills amongst low half-woody plants. Marina sta. See p. 117. Near Monterey.

No. 9781. (Ericameria) Haplopappus Eastwoodae Hall See p. 118. Marina sta., Monterey.

No. 9782. Artemisia pycnocephala DC. Gigling sta.

No. 9783.

No. 9784.

No. 9785. Stachys chamissonis Bth. Pacific Grove.

– Linanthus androsaceus Greene. Cont. from p. 95, no. 9702. Mrs. Virginia Bailey determines 9702 as above. Perhaps it were better to regard it as intermediate between L. androsaceus and L. pariflorus.

– Cont. from top of p. 65 ante. These plants, nos. 9602–9614, were collected within about 2 mi. of Peaceful Glen, not right at Peaceful Glen School.

- Cont. from p. 66. No. 9609. L. nanus Dougl. var. apricus C. B. Sm. Not L. micranthus

- Cont. from p. 112 at Watson. Greene has grown a great lot of trees of all kinds for years. He is now quite an old man, say over seventy, but he doesn't look it. His father was first acting Mayor of San Francisco (cf. Green st.). His maternal grandfather Fish was a manufacturer and contractor who kept Lee's armies going and who was imprisoned with Jefferson Davis in Forbes's Monroe after the Civil War. His brother is Clay Greene the dramatist of New York City.

Greene says Sam Watson measured on the ground, after falling, a Tan Oak in the Santa Lucias, 218 ft. tall. Also carefully estimated another (standing) tree as 208 ft. high.

- Stations out of Monterey: [towards Santa Cruz]

Gigling sta.
Marina sta.
Bardin sta.
Lapis sta.
Salinas River Bridge (Neponset).

- Cupressus macrocarpa Hartw. The thin little strip is being sold as villa lots. It is an outrage.

Greene, H. H., says he counted the rings on the end of a sawed trunk as 284. He felt that he must be mistaken, since the trees are reputed so ancient, and verified the count however by going over it carefully once more.

— On my way down to Monterey I drove by San Juan Bautista; on my return I drove by the bay shore route, crossed the Salinas River near its mouth, and so on to Watsonville. Near Soquel I "chanced" into a finely wooded little hill on left side of the road. The trees were tall Live Oaks, delightfully spaced, with fern on the slope beneath them. Thence to Santa Cruz. Cont. p. 121.

- Corethrogyne (no. 9777) cont.

Several to many erect stems from the base. Rays purplish lavender, 18, 21, 21, 18. Ovaries densely hirsuticose-canescent. Sandy open hillslope. Disk yellow.

- Helianthemum (no. 9773) cont.

Densely branched and very floriferous. Stamens 18, 17, 16, 15. Petals yellow, roundish-rhomboidal, apiculate, 2 2/3 lines long. Stigma capitate; style short. Carpels 3; placentae parietal; ovules several to each placenta.

- Cotyledon (no. 9780) cont.

This grew on the sandy hills, covered with low scrub or nearly open in spots. The tall stems rose up grandly; they are not so very tall but they rise up elate. The plants in habit and in fls. are exactly like those at Monterey sea-cliffs. See no. 9739.

- Ericameria (no. 9781) cont. ½ Rays yellow, fading nearly white or pale cream. Rays 3, 3, 3, 3, 2, 1, 3, 2, 2, 2, 1. This is the dominant species on the sandy hills for miles about. Marina sta. along the coast or bay shore.

- Stephanomeria (no. 9771) cont.

Ligules pink purple, 8, 13, 11, 8. ½ 12. Bracts of involucre obtuse, especially the long inner ones, purplish brown, purple-dotted, ciliate at apex. Sandy hills minutely

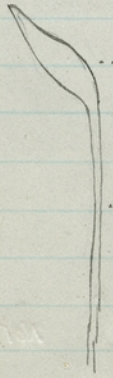
- Hemizonia (no. 9770) cont.

Rays 19, 19, 21, 21, 19, 23, ½ 21. Disk corolla a little annular-enlarged at base - the annulation somewhat obscure but still an obvious enlargement, its ovary with some minute pappus bristles. See sketches with spm.

Ray achene, except face (inner), covered with boat-shaped bract.

- Leptodactylon (no. 9767) cont.

Inversely yoke-shaped purple in throat, blw, that is on lower part-spiral- under teeth of lower lip. Filaments inserted at summit of tube, densely hairy on one side. Stigma dilated, inversely club-shaped, bent abruptly on its style.



Sandy flats, Monterey.

Inner calyx segment larger (i.e. broader than the upper one).

- Potentilla (no. 9763) cont.

Petals white, obovate, drawn down to a narrow- claw-like base, 2 ½ lines long. Stamens opposite calyx-segments the longer; all with downwardly dilated filaments. Stamens 10. Petals small. "a" and "b" are mere forms of 9763.

- Croton (no. 9765) cont. C. californicus Müll. Arg. Calyx-lobes roundish-ovate, not distinct. Stamens 13, 12, 10, 11.

?? See below

- Lessingia (no. 9762).

Flowers with larger 5-cleft corolla: 8, 6, 7, 5, 7. Bracts of involucre black-tipped. Fls. yellow.

note - 9762 was a corethrogyne

- (no. 9762) cont.

Rays 22, 21

Rays very pale lavender, disk yellow. Bracts of involucre glandular-pulverulent.

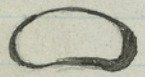
- Artemisia (no. 9782).

Inner bracts of involucre with scarious margins.

= shape of receptacle.

- On the way back from Santa Cruz I took a newly paved road that came out at the top of the ridge above Alma sta. (on the railway). It must parallel pretty closely the old road over the mts. to Los Gatos.

- Cont. from p. 109. He is teaching at the Hopkins Biol. Lab. of Stanford. He was the first man in this country to try out Delbrück's Oenotheras.



No. 9739
gland blind ovary in Echeveria caespitosa

No. 9741
gland blind carpel in Echeveria colyledon.

- Quercus agrifolia Née. H.A. Greene says that there are certain trees on the Del Monte grounds that yield edible acorns - that the head gardener often fills his pockets and munches them during the day.

No. 9786. Anaphalis margaritacea

No. 9787. Castilleia

No. 9788. Ribes leptosmum Cov.
No! = Ribes menziesii Pursh var. fanestum Jeps. Fl.

No. 9789. Actaea
Common about the base of Sugar Loaf. tm.

No. 9790. Pteris aquilina
5 ft. high.

No. 9791. Corylus ~~rostrata~~ cornuta var. californica

No. 9792. Scutellaria californica Gray
Brushy hill slope, south exposure.

No. 9793. Cerasus emarginata (Hook.) = Prunus " Wats.
Tree 18 in. circ. at 1 ft. See no. 9633; same tree there measured.

No. 9794. Anthemis cotula

No. 9795. Centaurea melitensis

– Cont. from p. 104. no. 9736. The rachis is darkish (or glandular) canescent, decidedly darkish, and rather thin not markedly canescent. The plants in the field seemed true A. manzanita Parry, but they have some points of contact with A. stanfordiana such as the small berries and the bright-green leaves. There are, however, occasional specimens which have rachises canescent and not glandular, and the rachis notably thickened upward, that is like A. manzanita.

No. 9795a. Sanicula menziesii H. & A.
Berkeley

No. 9796. Anaphalis margaritacea ♀ plants. Mostly in a clump by themselves.

No. 9797. Anaphalis margaritacea ♂ plants. Mostly in a clump by themselves.

No. 9798. Aralia californica Wats. Cont. p. 125.

No. 9799. Symphoricarpos mollis Nutt. Shrubs are now in fruit, and some shrubs still in flower. Indeed in one cluster I find ripe fruit and flowers in anthesis. Cont. p. 125

— Sambucus glauca Nutt. In full fruit and in full flower, different branches on one tree.

No. 9800. Ribes sanguineum Ph. var. glutinosum Loud. Berries with rather heavy bloom! They are when dead ripe soft and bland, but not at all sweet. Cf. 9801. Foliage with a marked aroma as nutmeg smell.

— Cont. no. 9799. Corolla distended on lower side, that is distinctly ventricose.

— Cont. no. 9798. Leaves to 4 ft. 9 in. long!

No. 9801. Ribes sanguineum Ph. var. melanocarpum Jepson. Berries nearly black, without bloom! They are (when dead ripe) soft and a little sweet. The foliage is without aroma.

— Cornus pubescens var. californica Berries in the shade turning bluish; otherwise clear ivory color as in the open.

No. 9802. Ribes leptasmum Cov. No! = R. menziesii Pursh var. faustum Cov.

No. 9802 a. Urtica holosericea Nutt. Aug. 23.

No. 9802 b. Senecio hydrophilus Nutt. Aug. Arlington, N. Berkeley Hills

Discarded
Badly Damaged by insect. LRH, 1965

No. 9803. Mimulus moschatus var. longiflorus Gray Syn. A.G.G. Corolla 10 to 12 lines long, 7 or 6 lines broad. Lobes of the lips much alike, short and broad, transversely elliptic-oblong, very obtuse or obscurely apiculate.* Stigmas thin, (sometimes) erose-denticulate. Folds of throat densely covered with very straight and stiffish hairs. Branching, but the branching long and weak. Cor. bright lemon-yellow. Ovary oblong a little obcompressed. - Moist springy place, Inverness.

No. 9804. Galium californicum H. & A. Trailing over the floor beneath the alder and buckeye woods. Cor. lobes with a very short but very marked bristle tip. Fls. white, very small but when scaled dull 1½ lines broad. c. 20 ft.

* sometimes a little notched.

Cont. p. 128.

No. 9805. Stachys chamissonis Bth. This becomes 6 to 8 ft. high! These stems are unbranched! at least short of the inflorescence. Sometimes, indeed, the stem is wholly unbranched, sometimes it bears three about equal "racemes," a terminal one and two lateral. The odor is very strong and very disagreeable; it is only with some difficulty that one can establish the basic mint odor. The odor is not only disagreeable but very clinging; it sticks on my clothing for hours after we leave the spot at Inverness where we found it so abundant. c. 20 ft.

Flowers 11 to 16 lines long. Calyx obscurely retuse, pubescent on back with quite entire or gland-tipped straight hairs. Corolla-tube

with a zone of short but densely set hairs 2 to 2 1/2 lines above the base, interrupted on the upper side opposite the style but not completely interrupted, that is the hairs very much thinner and fewer at that point.

Middle lobe of upper lip rounded, cupped, ascending, lateral lobes a little turned downward. Cor. tube below hairy band white or whitish. Cor. about twice as long as calyx.

Style glabrous.

Flowers 4 to 6 in a whorl.

Upper pair of filaments flattened, hairy on the edges; lower pair of filaments flattened, hairy on the upper edge.

-Cont. from no. 9803. The corolla, tho the lobes are subequal, is distinctly 2-lipped, due to the position of the lobes and to the prominent hairy palate.

No. 9806. Helenium puberulum

Achenes hispidulose on ib nerves; dark brown, paleae 5, tipped with an awn or subulate point a little longer. Achenes a trifle over 1/2 line long. Rays 3, 4 and 5-lobed. 3-lobed rays with 2 style-branches; 4 and 5-lobed rays with 3 style branches.

Laguntas

No. 9807. Baccharis douglasii DC.

Stream banks near Fairfax.

I notice only ♂ plants.

No. 9807a. Rhamnus californica Esch. Typica C.B.Wolf.

Near Fairfax.

No. 9808. Convolvulus luteolus Gray. Climbing over bushes on stream bank. Near Fairfax.

Miss Alice Eastwood came to Berkeley a few days ago but I did not chance to see her unfortunately. She still holds on at the Academy of Sciences in San Francisco in spite of her enemies. It is about two years since Hall told me of the "problem" of Miss Eastwood. He is now on the council of the Academy and responsible for the botany interests as discussed in the Council. He says Miss Eastwood goes out and collects wholesale, getting as many things as she can, breaking off a twig here and grabbing a plant there — but making no data or real field studies to go with the plants. Building up a large herbarium as rapidly as possible but paying no attention to quality.

Similarly after the fire an attempt was made by the

Academy people to get rid of her but she stuck. As she told me about it she jumped upon a bench, folded her arms defiantly, threw back her head and with flashing eyes proclaimed: "They'll have to drag me out by force and I told them so!" Miss Eastwood is a fighter. Her militant personality is however only known to her enemies for the most part: To most people her bright vivaciousness and cordial humor make her a well-liked person.

✓No. 9809. Convolvulus arvensis L. Berkeley, street parkings.

— Haenke, T. He edited the eighth edition of Linnaeus, Genera Plantarum. Vindobonae, 1791. I note this from Pritzel, Thesaurus, ed. 2, p. 189.

— went to Bay Farm Isl. with graduate students, namely Dr. Houghton, Miss Thacker and my artist, Miss Saunders.

No. 9809a. Frankenia grandifolia C. & S.

No. 9810. Suaeda californica Wats.

We find a number of plants at the old-time station, just beyond the bridge from Alameda on the lower edge of Bay Farm Isl. The plants are semi-prostrate, that is forming mats 6 ft. by 6 ft. about with the ends of the branches ascending.

No. 9810a. Atriplex. = S. virginica L.

No. 9810b. Salicornia ambigua Michx. ♂ & ♀

See p. 135.

No. 9811. Tetragonia expansa Murr.

Stamens 16, 12.

Calyx with one broad lobe on the upper side and 4 unequal lobes on the lower side of the flower. Stigmas 6, 7. This occurred

in very few individuals along the levee.

— Mr. Charles Nordhoff, is here in Berkeley, stopping at the Berkeley Inn. He says the Jojoba bush* is common and a great resource to the natives in Lower California. The nuts are calm roasted. Roasted they make a drink similar to chocolate. The bush grows in the most arid districts. It is said of it that it requires only one rain in a season to make it bear fruit. It is browsed heavily by browsing animals. When such is the case it does not bear. It is cultivated in the Argentine where there are superior varieties it is said. — Oct. 17, 1922.

* Simmondsia californica

No. 9811a. Lavatera assurgentiflora Kell.

Prob. mere escape. Bay Farm Isl.

— Lactuca is more or less common thru the canon, both on open slopes and in the chaparral. See no. 9819.

No. 9812. Helenium puberulum

No. 9813. Habenaria elegans
A single individual.

No. 9814. Aster radulinus Gray

No. 9815. Rosa gymnocarpa Nutt.

No. 9816. Quercus morehus Kell.
A fine compact small and sharply defined thicket of it 8 ft. high on Pigny Ridge.

No. 9817. Quercus wislizenii A. DC. With 9816. var. brunescens Engel

No. 9818. Salix ~~flavescens~~ sepulcralis Bebb. Nutt.
Near Sugar Loaf.

No. 9819. Lactuca serriola

No. 9819 a Picea occidentalis Gray.
Upper slopes beyond Sugar Loaf.

— Elmer → Applegate, Klamath Falls, called today. He said: "I have never seen Cercis occidentalis in southern Oregon nor Pinus sabiniana. Sweetser of Univ. of Ore. refers to Pinus Cuelteri in sw. Ore. Fiddler's Gulch [of your Silva] is a branch of Josephine Creek. I have myself seen Picea Breweriana at the head of it, just west of Kerby." Cf. vol. 20: p. 73 of this F. B.

[Salix ~~sp~~ amygdaloides Anders. Cont. from 9810 b. The plants are dioecious, as I find them here. I see none but pistillate fls. in pistillate spikes and none but staminate flowers in staminate spikes.

No. 9820. Bonium maculatum L.

No. 9821. Baccharis douglasii DC.

The colonies of male and female plants keep rather separate. The female heads tend to be rather thumbly pointed and are marked by the styles, which soon turn black. Protruded The heads of ♂ fls. are rather truncatish, since the expanded corollas make them so. The corolla in B. douglasii is remarkably short, filiform and without obvious limb but "toothed" very decidedly at the limb or margin, or perhaps roughly hispid rather than toothed. Low moist spots.

No. 9822. Picris ——→ echioides
Slender, erect.

No. 9823. ~~Solidago~~ occidentalis (Nutt.) T.+G. Low moist lands.

No. 9824. Heliotropium curassavicum var. oculatum (Heller) Jtn.
L. The ovary is slightly 4-creased longitudinally and thus obscurely 4-lobed.

— Prunus ilicifolia Walp. A tree at H. A. Dutton's place, Los Altos, is 30 ft. high. It presents a fine sight now, the crown covered with racemes of large shining red cherries. The fruit is abundant, looks very enticing, tastes most excellently, but alas! is nearly all stone! The seeds germinate readily in broken ground, that is when self-sown and seedlings are abundant says Dutton. This is not a planted tree.

No. 9825. Prunus ilicifolia Walp.
Los Altos. Fruits. See above.
Santa Clara Co

— Nuttall, Hws. of Pitt. 1: 241-244. Century Mag. 32: 238

Strawberry Cañon, Berkeley

Sept. 27, 1922

– Corylus rostrata . One bush 15 ft. high! ; another = 19 ft. h!

No. 9826. Chrysopsis villosa var. bolanderi Gray. Rosys 11, 10, 10.

No. 9827. Zauschneria californica Presl. Grassy slopes.

No. 9828. Solidago Margin of brushy slope.

No. 9829. Scutellaria californica Gray

– Coyotes. Forest Rangers killed 274 mountain lions, coyotes and bobcats on National Forests in Cal. in 1922. Santa Barbara Nat. For. lead with 105 coyotes, 53 wildcats and 41 mountain lions. — District Fire News Notes — about Jan. 1923.

No. 9829a. Eriogonum caninum (greene) Munz Oakland Hills, Sept.

– Menzies, A. was also an artist; see his botanical drawings in Hook. Bot. Misc. 1: pl. 23, 24, and in Hook. Fl. Bor. Am. 2: pl. 148.

St. Helena, Oct. 22, 1922. Napa Co

No. 9830. Mentzelia laevicaulis T. & G. Biennial. Stream bed, White Sulphur Creek.

No. 9831. Brassica adpressa Boiss. = B. geniculata = B. incana Meigen Biennial certainly; apparently perennial!! [Coms. p. 140.] 2 ft. h. White Sulphur Creek bed. 2 ft. h.

No. 9832. Tamarix gallica L. White Sulphur Creek bed.

No. 9833. Chrysopsis 2½ ft. h. Bed of White Sulphur Creek

No. 9834. Zauschneria californica Presl. Bed of White Sulphur Creek

No. 9835. Chenopodium ambrosioides var. anthelminticum Bed of Napa River.

No. 9836. Quercus lobata Nee. See p. 141. Mouth of Corn Creek. See p. 140.

No. 9837. Helianthus scaberrimus Stream bed, near mouth of Corn Creek.

No. 9838. Nicotiana bigelovii Wats. Stream bed near mouth of Corn Creek.

No. 9839. Eremocarpus setigerus Bth.

No. 9840. Salix lasiogata Bebb.

This species forms a dense regular line or screen along Conn Creek in the valley opposite Rutherford. The row is quite splendid, and I have indicated its exact location on my Napa Quadrangle. Trees 60 to 75 ft. h.

– Sequoia gigantea Dec. An individual stands at turn of road, right angle turn east, just before reaching willow line no. 9840.

– "North of Conn Creek"; By this is meant point where Creek leaves gorge of Sage Canon and runs over valley floor. Better say "mouth of Sage Canon." Conn Creek mouth is down the valley near Yountville.

– Mentzelia laticaulis, cont. 9830. The stamens are in several rows and inserted on a narrow disk or border to the summit of the ovary. This disk appears more like "calyx" tissue, or receptacle tissue than like an extension of the flat ovary summit: The petals are inserted immediately behind them and quite free from them.

– cont. from p. 139. no. 9836. Acorns remarkably thick! See box material.

No. 9841. Vitis californica Bth.

St. Helena at the river bridge

– Aven Nelson, Professor of Botany at Wyoming is here on a vacation. He arrived about Friday, Nov. 17, stayed for about twelve days. I invited him to speak before the Seminar and he consented to say a few words, Nov. 27.

– Carl Skottsberg, Director of the Botanic Garden at Gothenburg, Sweden, lectured before the Bot. Bot. Soc. Nov. 16. Setchell gave him a dinner that evening and invited Miss Alice Eastwood, Mr. & Mrs. S. B. Parish, Dr. & Mrs. B. W. Evermann, Dr. & Mrs. A. D. Houghton, Mr. Waltzinger and about fifteen more. Skottsberg (cont p. 143)

Shigenori Kawagoe.
The Kagoshima Imperial College of Agriculture and Forestry, Kagoshima, Japan.

This Japanese professor came to call this morning and brought a lot of Californian plants to name. A considerable number of them were scraps and fragments he had obtained from Mrs. Rice's wild flower show last spring, and were wrecked to name. He has been collecting in addition on his own account and had my Flora of Western Middle California which he seemed to value greatly. He also brought a copy of my Silva in order to

have my inscription in front.

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cont. from p. 141.
said of O. Warburg, the Begonia specialist: "He is doing much better now that he is away from Berlin and Dr. Engler". This is interesting as a light on the attempts to make all scientists organize under a directing head. I myself was not at the dinner* Professor and Mrs. Richard M. Holmson, Professor and Mrs. Gardner N.Y. were undoubtedly there.

* See p. 203.

– Walked to Glory Hole rim, Oakland Hills, Dec. 17. Along the Sacramento Short Line Tracks Brassica adpressa is starting afresh from the plants of last summer, leafing out from the old stems at 1 and 2 feet. So also new shoots from Picris Echioides. Along the wet shore

of Lake Temescal I collect:—
No. 9842. Artemisia biennis Willd.
It is in dense growth
right along the water margin.

— Brandegee, Mrs. K. From conversations with her, Mrs. S. B. Parish infers that her first husband, one Curran, was a rough Irish miner in the foothills of the Sierra, in one of the mining counties (probably Eldorado County) and that he was ill a long time before he died. (Is the "dying" is not clear.) He may have been divorced from Mrs. B. it is conjectured. At any rate freed of Curran she came to B. H. and took the course and degree in the med. dept. of Univ. of Cal. Little is known about her early life. I remarked to the Parishes, that for a woman as unrestrained and reckless in her comments on other people as

Mrs. B, she was singularly reticent about herself and particularly about her early history. — Dec. 24, 1922.

— Cleveland, Daniel. Mrs. Parish says of him: He gave up botany long ago. He had sickness, broke his leg and so on. However, he maintained sufficient interest in botany to borrow money from the Brandegees to meet his needs. Mrs. B. said he never repaid it but she took the better part, the more valuable portion, of his herbarium in (partial) payment and also some books. Cleveland has rather recently married. — Dec. 24, 1922. See p. 201.

— San Diego Society of Natural History is, says S. B. Parish, one of the oldest organizations on the coast. Some one gave it a well-situated lot on which a hotel was built; the hotel paying ground rent and later falling to the Society. The

society acquired one of the Panama-California exposition Buildings at the Balboa Park, San Diego, for a museum. Parish examined the very small herbarium in 1919 and saw nothing of value therein. — Dec. 24, 1922.

— Orcutt, B.K. Drove the team, (for hire, being employed for that purpose), which took Parry and Mrs. Jones on a trip to Ensenada from San Diego. On the way back they camped at Tia Juana. The next morning Jones proposed to continue the journey back to San Diego. Orcutt explained that, it being Sunday, his religion prevented his traveling on that day. Jones pulled out a pistol and forced Orcutt to go ahead. Parish thinks Pringle and Parry both were members of the party and that they had somehow

separated from the others before this incident. Parry was certainly on the expedition, but I never understood before that Pringle was of it. At any rate this was Orcutt's first botanical experience and he took so much interest in the activities of the party that Parry encouraged him to develope an interest in botany. Orcutt is certainly the promoter of shady botanical schemes, the unique as founder and organizer of semi-swindling devices. He is a sort of botanical confidence man. His latest plan is a hotel for retired botanists where by taking so much stock you can live (i.e. reside) for so long. This note I verbally from S.B. Parish. — Dec. 24, 1922.

— Went up Tamalpais Jan. 7. from Ross Valley, coming back to Corte Madera. — Arctostaphylos montana Eastw. Spreads out over the ground, forming rough mats 10 ft. × 5½ ft., along

the Eldredge trail wherever there is an "open" in sandstone rock. The ascending branches are not over 4 to 6 in high. Much like, in this respect, the more prostrate forms of A. pumila Nutt. at Monterey.

No. 9842. Artemisia biennis Willd.

Very common in all the lower woods, the most common fern.

No. 9843.

A frequent fern in the lower woods.

No. 9844. Ribes malvaceum Sm.

Las Trampas Ridge, Feb. 18.
Contra Costa Co.

No. 9845. Pedicularis densiflora Bth. Parasitic on Adenostoma fasciculatum root ½ in. in diameter! the union complete and striking. with 9844.

—(Marihuana? (?)) This is a drug obtained from some Mexican species of Astragalus (?) says Dr. A. D. Houghton. It is imported and used by Mexicans at Los Angeles. They smoke the leaves or herbage and throws them into a state of great excitation, physical excitation — it being a motor stimulant. Under this stimulant the drug they may, for example, run head first at a wall. Their physical excitement is so great as to cause cutting right thru the flesh to the bones of the numerous joints on hands or feet. One of the curious phases is that after coming out of this state, the addict declares he has had a wonderful time, a splendid time! Dr. H. has promised to secure botanical specimens. I believe the Mexicans use native species when they cannot get the imported herb.

— Drove to Stanford, took dinner with the Pearce's, Feb. 4, went on down to Los Altos to see Dutton. He said: "When I was a lad, in the early eighties, I went to Los Angeles. It consisted mostly of adobe houses with some frame houses. Brassica nigra covered the whole country about. It was 10 to 12 ft. high, with stems nearly as thick as your wrist, and we children did not dare wander into such a forest because we should have been lost, as one could not see out."

— Under side of bark scales in Pinus ponderosa = yellow brown; and in Pinus Jeffreyi = chocolate. That is scales of bark! J.O. Martin, entomologist, says these are differences marked out by V.S. Brown, my student at Eagle Lake. Dendroctonus Jeffreyi is a beetle

found only in Pinus Jeffreyi; whereas D. brevicomis works on P. ponderosa. The latter insect is more catholic in taste; but D. Jeffreyi is found only on Pinus Jeffreyi. This acc. to J. O. Martin who came in to call Feb. 13.

— Sequoia gigantea has resin ducts as follows: peduncle, scales, axis of (woody) cone; in first annual ring of wood in vigorous branches of adult trees, none in young trees; in leaf traces of very vigorous leaves of adult trees.

Sequoia sempervirens; none in cone; none in branches or leaves.

In both species appear as a result of wounds.

— From Jeffrey, Bost. Soc. Nat. Hist. Mem. 5: 441-459 (1903).

— C. G. Pringle, & other collectors and cultivators. See Bailey, Cyclop. Hort. ed. 2 under Horticulturists.

Mt. Diablo, Mar. 11, 1923.

No. 9846. =Microsteeris Julia gracilis Hook.
South slope, amongst oaks, Black Hills. c. 1300 ft

No. 9847. Ceanothus cuneatus Nutt.
Black Hills. c. 1300 ft.

No. 9848. Dodecatheon Hendersonii Gray.
With 9846. c. 1300 ft.

No. 9849. Viola pedunculata T. & G.
Half-way up south slope. c. 2250 ft.

No. 9850. Cardamine integrifolia Nutt. var. californica Jepson. =Dentaria californica Nutt.
Oak-covered open slope, more or less in shade. Half-way up. c. 2250 ft.

No. 9851. Pinus sabiniana Dougl.
Black Hills. cone. c. 1300 ft.

— H. E. McMinn, Professor of Botany at Mills College says: One of my students who was in Abrams laboratory at Stanford tells me that Abrams said: I am disgusted with my account of Arctostaphylos in the North American

Berkeley, Mar. 31.

Flora". This remark was aprohos of my treatment of the genus in my recent Madrono where the student Knuck the fans out from under Abrams treatment completely, tho of course I do not say so, nor even intimate it.

No. 9852. Actaea spicata var. arguta Torr. Strawberry Canon. Apr. 12.

(Discarded, insect damaged)
No. 9853.
Alameda Oakland - Antioch track. Apr. 14.

No. 9854. Orientalis ~~europaea~~ L. ~~var~~ latifolia Hook.
Oakland Hills. Apr. 14.

No. 9855. Lasthenia glabrata
Alviso, Apr. 15.

— went today to the dedication of the Jepson Laurel (by Cal. Botanical Society) at Lake San Andreas. The exercises were simple, dignified and impressive. W. W. Mackie, Master of the Day, Frank L. Dodd and W. F. Badé and Mrs. A. Frederick, Speakers.

= Tritelia
No. 9856. Brodiaea laxa
Adobe hillsides, among wild oats. There was a great abundance of this on the lowest slope of the foothills, south side of the mt. It was scarcely as tall as the wild oats, but the effect as the wind swayed the oats was wonderful in the extreme. (Cont. p. 158)

No. 9857. Trifolium fucatum Lindl.

No. 9858. Trifolium gracilentum T. & G.

No. 9859. Orthocarpus purpurascens Bth.

No. 9860. Trifolium albopurpureum T. & G.

No. 9861. Achyrachaena mollis Sch.

No. 9862. Geranium dissectum L.
Shade of oaks. Claws markedly ciliate above the base. Styles 5. Stamens 7 to 10, filaments dilated. Cont. p. 158.

No. 9863. Torilis nodosa Gaertn.
Shade of oaks

No. 9864. Evax sparsiflora
Steep adobe bank in foothill cañon. Sterile fls. 3, 4.

No. 9865. Anagallis arvensis L. var. coerulea (Schreb.) Gelert.
Corollas royal purple, no red ones in the colony. Colony on open hillside in little foothill cañon, about 12 ft. square. A large number of plants. Cont. p. 158.

No. 9866. Wyethia helenioides
Rays 15.
Not abundant. Higher slopes, middle belts. on the mt. and below

No. 9867. Pterostegia drymarioides
No. 9867a. Shade of oaks. Bowlesia lobata R. & P. With 9867.

No. 9868. Nemophila
Corolla clear white, large, rather showy, making masses in deep shaded cañons.

No. 9869. Dryopteris arguta (Kauff.) Watt (Det. Tryon, 1958)
This fern grew on deep cañon side, wooded.

No. 9870. Sanicula bipinnata H.&A.
with 9869

No. 9871. Ranunculus californicus Benth.
with 9870

No. 9872. Plantago
Open hilltops.

No. 9873. Orthocarpus attenuatus Gray.
with 9872.

No. 9874. Baeria
with 9872

Rays 11, 11, 8.

No. 9875. Orthocarpus fusiformis Benth.
with 9872.

No. 9876. Pinus ~~tuberculata Gord.~~ attenuata Lemmon
This tree grows on the rocky ridge described on p. 159. It was the nearest and most isolated tree but was difficult to

reach on account of chaparral. Even when within 10 ft. of it: the problem was baffling. I had neglected to bring my belt axe — which makes such a difference in chaparral country.

— This high country is very delightful. It is a "brimming sun-bathed world" for one thing today; and the greens are wonderful. (spring)

No. 9877. Micropus californicus F. & M.
with 9872

No. 9878. Micropus californicus F. & M.
with 9872

No. 9878a. Plagiobothrys nothofulvus Gray ~~canescens Bth.~~

No. 9879. Phacelia distans Bth.
Foothill cañon, wooded.
Fls. white or nearly white.
— Heracleum lanatum Michx. In deep gorge Sycamore Cañon; cf. p. 159.

No. 9880. Microseris douglasii douglasii
Foothill cañon, not wooded except sparsely.

No. 9881. Microseris douglasii douglasii
with 9880.

No. 9882. Microseris douglasii douglasii
with 9880.

[No. 9865. Cont. Petals crosulate.

[No. 9862, Cont. Filaments ciliate at the
middle. Petals with a ciliate tuft of hairs
on each side above claw.

No. 9883. Lasthenia glabrata
Rays 12, 14, 12, 12, 13.

- Cont. from p. 154, 9856 - I went
out to the mt. by electric train
to the station at Diablo, walked
out the Black Hawk Road, then
cut across the fields over the
low rolling hills into a cañon
leading up to "inspiration
point" on the auto road which
here encircles the Black Hills
and then turns westerly on its

way up the mt. I plunged down
thru the gap below the point into
Sycamore Cañon, - a lovely deep
wooded and wild gorge, - followed up its
east fork, on, on, and up, up -
until reaching the high lovely
opens and swales bordered by fine
oaks and buckeyes at its very
head, my objective and central station. Here one is near and can
easily survey the high and
picturesque rocky ridge which
circles this station on the north
and east. The Ridge is very
broken and rocky, covered with
chaparral, and has two fine
clusters of Pinus tuberculata
on high points across the
cañon eastward. The trees
seemed as much as 40 ft. h.,
but may have been higher.
A few trees are scattered along
the ridge westward. See #9876.

Berkeley, Apr. 28, 1923.

— Redwood, no. of seed per pound, 124,000 to 224,000.
Seed % germination, 20 to 36.
— H. C. Cott, master's thesis.

— Lemmon, J. G. See letter from W. L. J. to C. H. Shinn, Apr. 28, 1923. A. Kellogg also mentioned.

— Climate, — Rains early and heavy all winter up to end of Feb. The precip. in Feb. light. First 30 days of March no rainfall at all! Slight fall on last day of month, .03 inch. March, 1923, therefore a record. An excess of north winds in [new] Mar. April rainfall heavy for April. — {Apr. 29.}

— Menzies, A. The barrenness of his journal in botany. See letter to C. F. Newcombe, 8 May 1923, from W. L. J. — And yet for introduced things in Europe it is Menzies & Douglas & this

— Botanical exploration. cf. Chas. W. Smith, Checklist of Books and Pamphlets relating to the Pacific Northwest.

St. Helena, Apr. 29, 1923

No. 9884. Erodium botrys Bertol. Nearly erect, and taller than I have ever before seen it: Hill slope, below chamisal, in open ground.

No. 9885. Oenothera ovata Nutt. Open ground, valley swale on edge of foothill.

No. 9886. Filago gallica L. With 9884.

No. 9887. Filago californica Nutt. With 9884.

No. 9888. Micropus californicus F. & M. With 9884.

No. 9889. Eriophyllum. Borders of chamisal, on steep slope.

No. 9890. Cirsium. Crimson fls. With 9889. Branching from base, 3½ ft. h.

St. Helena, 300 ft.

No. 9891. Microseris linearifolia with 9889.

No. 9892. Wyethia

In a little flat on border of the foothills. Rays 13, 13, 13, 14, 16.

No. 9893. Silene gallica L. with 9892.

No. 9894. Platystemon californicus Bth. with 9892.

No. 9895. Thysanocarpus curvipes Hook. var. elegans Rob. with 9892.

Nos. 9884-9895 were collected on a hillside just above the valley level a little north of the mouth* of Conn Creek, or on the flat below it. See also no. 9899.

*i.e., mouth of Sage Cañon.

— My brother-in-law, Frank Pellet, says he can distinguish between songs of every individual bird of the various ones that sing in the fields and on the fences and tree tops near his home — especially in the early morning when he lies abed listening to them.

Vanden sta. Apr. 30.

No. 9896. Lilaea subulata

In pools e. of Suisun.

The ♀ spikes appear to contort and get down under the water after anthesis.

— The flats south of Vanden are now having their short hey-day of beauty. The playas are a pale sea-green with a dense short growth of Eryngium vaseyi, bordered by a zone of Baeria 9898; an embroidery of deep gold. Likewise there are gold medallions of the same scattered over-

30 apr.

No. 9897. Psilocarphus ~~oregonus var.~~ brevissimus Nutt. In wet vernal pool, near Vanden sta.

No. 9898. Baeria.

Borders of playas a little west of Vanden sta. [of south of]

---

over the grassy fields, relieved by the shining or silvery heads of Achyrachaena mollis - now just bursting into its fruiting heads.

The wheat fields look well, exceptionally well - but the outlook was desperate one month ago today after 45 days of drought.

No. 9899. Plantago bigelovii Gray. Vanden sta. Leaves semi-terete.

- Miss Louisiana Scott, who is working with a hygienic company at West Berkeley, says: Dr. Harry E. Alderson has perfected an extract of Rhus diversiloba, alcoholic, which is administered successfully in hypodermic injections. [graduated]

Dr. Alderson's office is 240 Stockton st. This product is put on the market by Broemmel's Pharmacy, 2501 California st., S.F.

- Mule-Tail or Mare's-Tail. Possibly Equisetum sp? Past in garden at Tiburon. [Pac. R. Press, 7/14/'23. "W.A.T."].

No. 9899a. Brodiaea

With no. 9895. This has a couple of points or projections to filament above insertion of anther, on back of anther. See no. 9981.

Berkeley, May 8, 1923.

No. 9900. Myrica californica
Strawberry Cañon. ♀ shrub
with some ♂ catkins.

No. 9901. Myrica californica
With 9900. ♂ shrub, with
♂ fls. only acc. Herbert L.
Mason, Bot. 112.

No. 9902. (Discarded) Heuchera micrantha Dougl.
Strawberry Cañon; foliage
from one plant.

No. 9903. (Discarded) Heuchera micrantha
Dougl. Foliage from one plant.
With 9902.

– Martindale, Justin E., 1127 Castalia
ave., Los Angeles, comes in with
some very remarkable flower
photographs colored. Rather finer
than anything I have seen
before.

Berkeley to San Andreas,
25 May 1923.

No. 9904. Lemna
Middle River, San Joaquin Co.

No. 9905. Gratiola ebracteata Bth.
c. 650 ft. In muddy bed of former vernal
pool. Valley Springs, Calaveras Co.

No. 9906. Gnaphalium
With 9905, on dry bank.

No. 9907. Filago gallica
With 9906.

No. 9908. Brodiaea ~~elegans Hooger~~ ~~Coronaria Jepson~~
det. Hoover.
Anthers approx. in center around
style; staminodia erect against
perianth. With 9906.

J. A.
– Cont. from p. 170. Judge Smith de-
clares there was no Four Coun-
ties Courthouse! See his letter
dated June 26, 1923. I wrote him
in order to verify the matter.
[In Bancroft's Handbook Almanac of the
Pacific States, p. 103 (1864), Eldorado, Ama-
dor and Calaveras appear in one judicial dis-
trict.]

No. 9909. = Navarretia Juha intertexta Stend. Cor. very pale lavender (almost white); stamens equally inserted in tube. Fls. 4½ lines long. Calyx-teeth very unequal, 2 long and 3 short. Leaves pinnately parted with filiform divisions, the divisions entire or sparingly toothed. Calyx-teeth with a tuft of hair on the back of the lobe, inside, otherwise glabrous or nearly so; calyx-tube pubescent outside, except at very base. All the fls. examined showed 2-cleft styles. With 9906.

= Navarretia intertexta Hook. (No. 9909).

– Teratology. – No. 9909. One fl. with 6-merous circles, but only 2 branches to the style! It is remarkable that increase in number affected all circles except the gynoecium!

– A blue jay sails along the hill slope above Calaveritas Creek. We sit on the limestone outcrops above and watch his supremely graceful flight with saucy bows and swells in his very flight itself. The reason man doesn't like the Blue Jay is exactly the same reason that he dislikes the Coyote. These animals are too smart for him. The Coyote beats him at his own game. The trait of man is cunning. The Coyote beats him. The trait of man is deceit. The Coyote beats him. The Blue Jay is saucy and impertinent. Man doesn't like the Blue Jay. He wants a monopoly of those traits. Now a small boy likes a Blue Jay. A small boy is unprejudiced; he is frank and honest and normally tells the truth – especially where others are concerned.

Old Gulch, May. 26. 1923

Calaveras Co.

– The Four Counties Courthouse stood in Old Gulch, on a little ridge, maybe twenty feet above the flat. It had entrances at opposite ends. At the west end stood a fig tree; at the east end an oak. If the jury left the building by the fig tree end it was understood the accused was held innocent; if by the oak end the verdict was guilty. Justice was certain and prompt in those days and the Jury acted as executioners and string the guilty man up to the oak tree. The fig tree still stands; it is plainly an old tree tho' not a large one. The oak tree still stands; it is not a large one (being 34 feet high) but shapely, with a trunk 2 feet in diameter at 4 ft. It is an Interior Live Oak (Quercus wislizeni A.DC. My measurements are by the eye only. — Cont. p. 167. See also p. 201.

San Andreas, May 26.

– Old Gulch lies on Calaveritas Creek, some six or seven miles se. from San Andreas.

[Cont. no. 9954, Brodiaea, from p. 191. The gravelly soil is so hard, so sun-baked, and more especially the corms are so deeply seated (8 to 9 in.) that it was a truly difficult task to lift the corms uninjured or get them at all. The feeling was that I had let myself in for an all day's steady "pick and shovel" kind of job with just a small botanical pick. The below-ground stem and corm are very heavily sheathed in old coats and fibre. I know no other lily so heavily sheathed except (cont. p. 174).

[Cont. 9960. This is as near H. elegans Jepson as could be expected, I think, save only in color of flowers. I had misgivings as to this color-diff which came with Tracy's specs. and notes and now I feel that the diagnosis should read in Fl. Cal. 330, fls. whitish or greenish.

Comet Mine, San Andreas

27 May 1923.

No. 9910. Calochortus venustus Dougl.
Comet Mine, San Andreas

No. 9911. Orthocarpus densiflorus Bth.
With 9910.

No. 9912. Wyethia angustifolia
With 9910 (DC.) Nutt.

No. 9913. Calochortus luteus Dougl.
Red-brown spot in center of petal. North Fork Calaveras River Bridge, N. of San Andreas. Dry gravelly soil, in dry grass. Gentle open hillslopes, high with dry grass, are yellow with this species. It is very abundant throughout the region everywhere.

No. 9914. Delphinium variegatum T. & G.
With 9913. det R.B. Nov. 59

No. 9915. Hypochaeris glabra
Very abundant over the open hillslopes

c. 1000 ft.

[Cont. no. 9960. Habenaria Calaveras Co.
Spur twice as long as ovary! Spike with discrete fls., attenuate at apex! Lip triangular, ↑long- obtuse at tip, minutely* denticulate on side! Fls. greenish!

* This is very obscure and not of much moment.

[Cont. 9954, from p. 191. The anthers have the filaments attached on the back and prolonged upward into two slender appendages. These lie close along the anthers or rather in the channel between the anther lobes and are easily overlooked. See p. 177.

No. 9916. Scutellaria siphocamyploides
angustifolia Pursh. North Fork Calaveras River, near San Andreas. Lower pair filaments with the inner edge ciliate; upper pair with both edges ciliate. All the filaments are flattened above and all lie under the upper lip, four side by side. "Inner" therefore refers to the

San Andreas, c. 1000 ft.

edge towards ~~from~~ its pair. The style is glabrous. Upper lip keeled, the lateral lobes reflexed or recurved rather. Corolla glandular-pubescent on the tube outside, with short gland-tipped hairs. The upper stamens have their filaments united with the corolla tube, their edges hairy. The style is quite free and yet it is hidden behind the edges of these stamens and only appears above. See no. 10,002.

[Cont. from p. 171. Brodiaea.] only Chlorogalum pomeridianum. Cf. also no. 9981, Napa Valley, which is identical ~~sp~~ sp. and similarly sheathed.

– Conium maculatum San Andreas
– Anagallis arvensis "
– Melilotus indica
Valley Springs.

Kentucky House, Calaveritas Creek c. 900 ft. May 27, 1923 175

Calaveras Co.

No. 9917. Plantago lanceolata

No. 9918. Eschscholtzia californica Cham. Fls. yellow, not golden except in center.

No. 9919. Cotyledon lanceolata B. & W. var. incerta Jepson.

No. 9920. Galium
Abundant on the pastured hills.

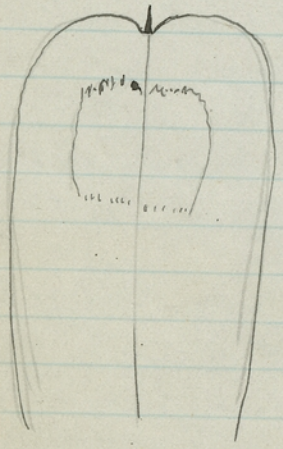
No. 9921. Verbascum blattaria L.
Stream bed of the Calaveritas.

No. 9922. Calycharteus albus
San Andreas, May 26

No. 9923. Hypochaeris glabra.
San Andreas. May 26.

No. 9924. Filago
San Andreas. May 26.

San Andreas

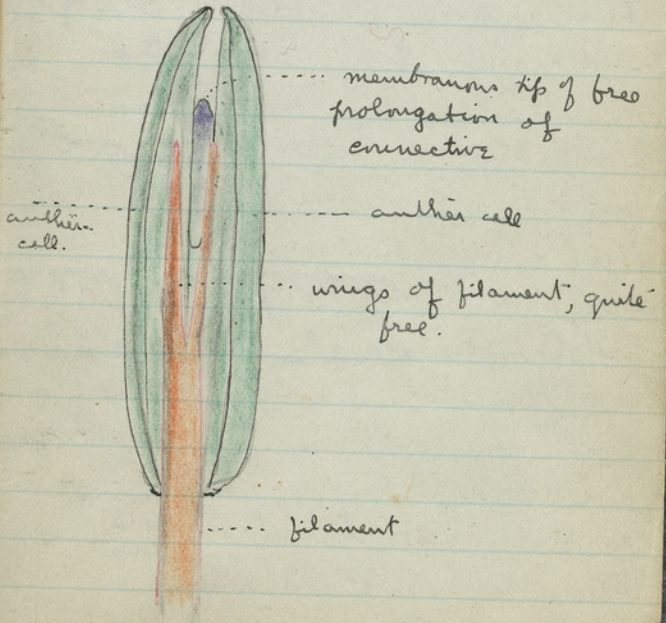


— Cont. from p. 193. No. 9961. Plants 3 to 10 ft. broad, 0.8 to 2.4 ft. high. Stems decumbent or semi-prostrate, taking root, and so spreading on all sides from the central stem and thus really becoming a vegetative colony. The main stems are mostly flattened vertically and dead above, the living part being below.

[Cont. from p. 175. No. 9919. Corolla livid-crimson, its segments approximate and the corolla therefore acute. I did not see the segments spreading. Filaments filiform. Racemes of the panicle scand. Cotyledon

[Cont. from p. 191. Brodiaea.

See p. 173 alas.
" " 171 "



Burson, Calaveras Co.

No. 9925. Pogogyne ziziphoroides Bth.

Cor. purple; lower lip: middle lobe quadratish, the larger, lateral lobes oblong-quadratish; spreading. Stamens 2, on lower side; style ciliate above; stamen-fils. inserted very high, the fils. short. Calyx teeth subulate, unequal, bristly-ciliate; two teeth long, 3 short. Neither stamens nor style exserted. Bracts 3-divided into linear or oblanceolate segments, the segments bristly-ciliate. Cor. 4 lines long, violet-purple, a darker purple spot on middle lobe lower lip. Style a little flattened, a little ciliate at apex. Not a trace of upper pair of stamens or anthers. Are there ever?

Calyx teeth as often subequal; commonly nearly as long as cor., often a little exceeding cor. Lower lip of cor. sometimes showing a little white marking as well as purple. Cor. tube pubescent outside with short spreading hairs

Stigma lobes very unequal. Lower lip with white and purple markings occurs as well as just with purple. Plants erect! scarcely "stemish". Stems very erect. Odor very lovely; better say delightful.

No. 9926. Pogogyne serpylloides Gray.

Exactly like no. 9925 in most all particulars. More branched, less distinctly erect, more odorous!, calyx-lobes lanceolate, whereas in # 9925 subulate! The difference in appearance of these two calyces is very marked, more than might be supposed from the terms used in indicating the differential. Same habitat as 9925.

No. 9927. Centunculus minimus L.

The diagnosis in Fl. W. Mid. Cal. ed. 2 is satisfactory. Calyx-segments mostly 5 with 4-merous corolla and 4 stamens. Sepals linear-acuminate, mucronate-tipped. - Beds of winter pools.

Burson, Calaveras Co., c. 500 ft.

No. 9928. Hypericum concinnum
Stamens in a cluster, 18. 23. 24.
3 Fascicles very distinct. Four of
the filaments united below, the other joined
only at base. Ovary with 3 placentae,
these connivent (but only connivent) in center.

No. 9929. Downingia

See p. 187. Upper lobes lanceolate, horizontally recurving. Lower lip: a central white spot on the field of pale blue, a quadratish yellow spot next the throat entering on the white; lobes elliptic, somewhat spreading and thus tre-foil shaped. Anther-column nearly straight. Anther apex with 2 small (minute) teeth. Sinus between lips cut straight down but not deeply. Sinus between lobes of upper lip cut almost as deeply. Calyx-lobes ascending. With 9927.

No. 9930 Gnaphalium palustre Nutt.
With 9927. Cont. p. 181.

No. 9931. Chlorogalum angustifolium Kell.
Fls. dull white. Opening only
at sun-down. Apparently only vespertine. Clay flat. See p. 187. Also p. 186.

No. 9932. Gratiola ebracteata Bth.
With 9927. See p. 188.

No. 9933. ~~Isoetes~~ Pilularia americana
A. Br. (det. R. Tryon Jr., 1958)
With 9927. See p. 188.

No. 9934. Boisduvalia stricta (A. Gray) Greene.
With 9927. See p. 188.

No. 9935. Ranunculus
With 9927. See p. 188.

No. 9936. Centaurium venustum Rob.

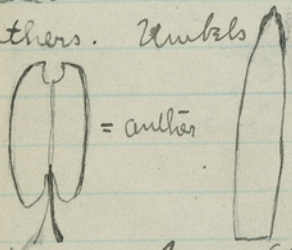
See p. 187. Stigmas obovate, obtuse. Anthers linear, cleft at base, the fils. inserted at summit of cleft. Dry flat.

— Cont. from p. 180. No. 9930. Heads with 2 kinds of corollas: ♀ fls. with filiform corollas and scarcely any limb; ♂ fls. with comparatively large cor. and large limb.

Cont. p. 182.

Involucral bracts obtuse, as says the Fl. W. Mid. Cal., but also subacute; mostly denticulate. Heads mostly ♀, the disk whitish, with a central brown spot of ♂ fls. See p. 187.

No. 9937. Brodiaea minor (Benth.) Wats. (or B. coronaria (Salisb.) Engler & Prantl var minor Hoover) with 9931. Perianth violet-purple; segments linear-oblong, longer than the tube. Anthers as if erumpent around style, the staminodia (with revolute edges) approximate around these and much exceeding the anthers. Umbels 1 to 5-flowered.



Dry sandy flat. See also p. 187.

No. 9938. Gilia (Navarretia) viscidula (Bth.) Gray. In hard, very hard, baked, gravelly soil. Flp. red-purple. Calyx glandular, not pubescent, certainly not in any obvious way as in 9941, 9945, 9946. Stamens included. Anthers blue. Corolla throat with (Cont. p. 189).

No. 9939. Toxicoscordion venenosum Greene. In shade of oaks; out in wild places in the foothills. See p. 187.

No. 9940. ~~Tritelia~~ Brodiaea hyacinthina The most abundant liliaceous plant, at this time, in the lower foothills. Miles and miles of slopes were characterized by its white flowers.

No. 9941. ~~Gilia~~ (Navarretia) pubescens. Stand. Cor. blue, its shape similar to that of no. 9946. Its calyx is like no. 9945; its anthers are also white like 9945 and exserted in about the same way.* San Andreas, 5 mi. west. See p. 187.

No. 9942. Trifolium obtusiflorum Hook. Stream bed, North Fork Calaveras River, n. from San Andreas.

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* 9941 is very like 9945. The two may be identic save for corolla color, tho the throat in 9945 seems different. Calyx in 9941 is glandular; not in 9945 and 9946.

Bunson, Calaveras Co., c. 500 ft. May 28, 1923

No. 9943. Mimulus (Eunanus) tricolor Hartw. with 9927. Corolla lips not very unequal, but the lower the larger. Each lobe of lower lip with a purple spot near base, the palate a field of yellow with purple dots.* Corolla crimson.

No. 9944. Lythrum hyssopifolia L. Petals oblong (broadly), pale lavender**. Fls. 3½ lines long. Stamens 3,*** inserted low on calyx-tube. Stigma capitate. All parts glabrous. With 9927.

* Lobes upper lip with large purple dot at base. Stigmas large, flabelliform. Two lower calyx lobes small. Next pair larger. Upper quite large.

** Latter pink-lavender.

*** Stamens 3, 3, 3, 3, 4.

No. 9945. Gilia (Navarretia fourmanae Eastw.) = N. cotuleaefolia Corolla blue with white throat + base of lobes, and a prominent purplish spot in throat below base of each lobe. The leaves are pinnatifid incised into linear or filiform divisions, stiff but not truely spinose, tho' the bracts have spinose teeth. San Andreas, 5 mi. west. See p. 187.

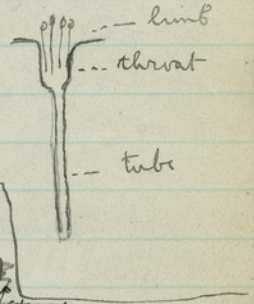


Diagram of corolla
See no. 9946.

No. 9946. ~~Gilia~~ Navarretia ~~intertexta~~ Hook. Cor. almost white or pale lavender! Cor. tubular-funnelform; stamens and style exserted. Bracts pinnatifid into rigid elongated filiform divisions which are very prominently "exserted" (that is extended beyond the head). Bracts spinose-pinnati-

Burson, Calaveras Co., c. 500 ft.

fid, densely white-pubescent with straight white hairs on the lower side, that is on the undivided basal part of the bract. Calyx-lobes white-pubescent at base inside, and a little outside. – San Andreas, 5 mi. west.

See p. 187.

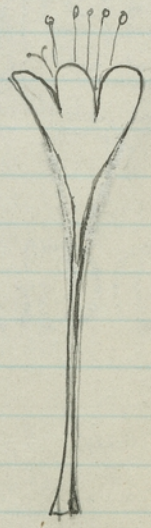


Diagram of corolla: compare with diagram of no 9945. The two are not to the same scale. Stamens exserted farther in 9946 than in 9945.

~~Anthers~~ yellow in 9946.
" white in 9945.

– Chlorogalum angustifolium Kell. No stipe to ovary! See no. 9931.

– This afternoon we drove west. On the dry thinly wooded hills (from San Andreas) I collected 9941, 9945, 9946, 9939. We passed Valley Springs; in very hard gravelly soil almost destitute of other vegetation no. 9938 covered the ground with a red-purple flush. We continue west. In a low flat near Burson Brodiaea (no. 9937) coronaria (Salisb.) Engler (or B. minor var nana) det. Hoover. was found; it was abundant in the shade of Quercus douglasii with it was Centaurium venustum, no. 9936, and also Chlorogalum (no. 9931), this not in open flower. (On our return near sunset it was in anthesis, quite conspicuous in this dry sun-scorched spot.) We drove west beyond Burson. After a few miles I stopped to gather Gaophalium palustre, no. 9930. In the waterless bed of a small rivulet I saw a stray flower, a vestige, of Downingia (no. 9929). In looking

further I found Gratiola obractiata (no. 9932), and then Mimulus (no. 9943). Then I chanced on Ranunculus (no. 9935) and Boisduvalia stricta (no. 9934), all in the bed of this narrow now dry water way or on its margin. In each case I found at first poor material - but, soon, by looking further into material in former pool beds. While thus searching, being of course close down to the ground, often on my knees, or hands and knees, I discovered the tiny Centunculus minimus (no. 9927), at first a very little of it, later more abundantly. Then I saw some curious plants like a minute Juncus that had been singed or blight-struck and it proved to be Isoetes (no. 9933).

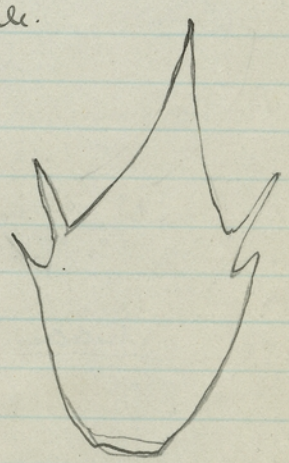
All these plants are minute

or small, and all very interesting.

– Cont. from p. 182. [No. 9938.] about 3 lanceolate patterns below each lobe, the color a very light or pale or whitish purple.

Bract:

This type of bract is very different from those in nos. 9941, 9945, 9946.



Entire plant glandular-puberulent

Ovules 2 or 3 in each cell!

See also p. 187.

No. 9947. Verbascum blattaria L.
Fls. white. 3-4 ft. tall.
Burson.

No. 9948. ~~Gilia~~ (Navarretia) intertexta Stend. Cor. pale lavender.
Burson, in moist stream bed.

No. 9949. Boisduvalia densiflora (Hindl.) S. Wats.
Burson, in moist stream bed. Plants 33 in. h., the more robust ones branching freely at base. Cor. crimson.

No. 9950. ~~Brodiaea~~ Tritelia hyacinthina
I see no difference in fls. between this and the one of the upland slopes. This grew in moist bottom near stream and is much more showy and robust, the corms larger.

No. 9951. Galium
The stem forked at base into two main branches. One of these, equal in length to the other was cut off near the base and shows in the open. Stems ↑ the base about 4 ft. long.

No. 9951a. Limnanthes striata
Jepson. Cor. white with yellowish center, the petals markedly brown-purple veined at base. Moist stream bed.

No. 9952.
Stream bottom.

No. 9953. Dicentra chrysantha
Broken ground; 6½ ft. h.

No. 9954. Brodiaea appendiculata Hoover
det. R. F. Hoover
Flat, in very ↑ hard ground near Burson. It might have been passed by as B. coronaria, which is very common and making a fine show all over the country hereabouts, but it had all but passed flowering, whereas B. cor.-

onaria is just coming into full flower. B. coronaria has erect or nearly erect pedicels, this has a strongly umbellate infl. with the pedicels divaricate-curving from the summit of the peduncle. Staminodia much longer than anthers, fleshy, inrowed edges, the edges denticulate! Per. segments elliptic, conspicuously broader than in B. coronaria. This is very similar to no. 9937. (B. appendiculata Hoover) It is the same as no. 9957 (B. appendiculata n. of Comanche) and no. 9965 (Buena Vista). Cont. p. 173, 177, 171, 199. in Amador Co.

No. 9955. Helianthemum scoparium Nutt. var.? vulgare Jepson. A low hill-top at Burson carried a good deal of it. Large plants, very bushy, 4 ft. broad, 14 to 20 in. high, the stems very slender and numerous, making a very dense little bush, with easily 200,000 flowers and buds in

case of the larger plant. For geological formation see vol. 40, p. 12

No. 9956. Hypericum concinnum Bth. with 9955

No. 9957. Brodiaea appendiculata Hoover det. Hoover. At the road forks n. (north of Comanche) see p. 192 this date, is now flooded by Camanche Reservoir from Mokelumne River bridge. Petals spreading almost horizontally and then curving up, thus very broad; as much as 6 in. long. Amador Co.

No. 9958. Arctostaphylos viscida Parry. Buena Vista. Rock-gravelly hill tops, common; 6-8 ft. high.

No. 9959. Arctostaphylos manzanita Parry. Buena Vista, Amador Co.

No. 9960. Habenaria elegans See pp. 171 and 173. Under Quercus douglasii with no. 9959. H. & A.

No. 9960a. Centaurium venustum Buena Vista, Amador Co.

No. 9961. Arctostaphylos myrtifolia Parry. Buena Vista, Amador Co.

From geology see above. See vol. 40, p. 1, also.

Buena Vista, Amador County.

No. 9962. Potentilla wilderae (Parish) Jepson var. = P. parryi Greene!!! Stamens 10; filaments dilated, those opp. the petals with narrower filaments. Petals white, obovate, obtuse, toothed or notched laterally at apex, or entire.

No. 9963. Heterotheca grandiflora Nutt. Mokelumne River bridge near Comanche, but in Amador Co.

No. 9964. Chlorogalum angustifolium Kell. Comanche, Calaveras Co.

No. 9965. Brodiaea

Buena Vista.

No. 9966. Vitis californica Bth.

Jone Valley, Amador Co.

No. 9967. Adenostoma fasciculatum H.+A. This shrub makes a fine show all thru the foothills at this time. It looks very clean and very attractive; and its flowering panicles are very large. Why should it not be used as a

garden shrub? Some shrubs persisted or were spontaneous along a fence line by the roadway between Mokelumne River bridge and Buena Vista. They looked so well-grown and so good-looking that Miss Saunders thought they must have been planted. But I think not. They were not regularly spaced and no rancher in the foothills would plant this shrub for ornament in a remote portion of his ranch or elsewhere.

Lagoon Valley, June 2. 1923.

No. 9968. Aristolochia californica Solano Co.

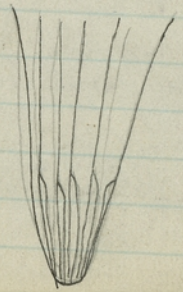
Climbing a young Quercus douglasii H.+A., which is not, I judge, over 15 years old. Fruiting heavily.

No. 9969. Monardella villosa var. ~~tomentosa (Eastw.)~~ subserrata
Bth., Calistōga, dry wash bank.
Cor. 7 lines lng. Lower lobes diverging, all alike, linear; upper lip linear-oblong, cleft nearly but not quite to the middle, the lobes parallel. Stamens equal, exserted; filaments glabrous except a little hairy at very base. Flo. lavender. Cor. tube with downwardly turning or somewhat recurving hairs, both inside and out.

No. 9970. Pentstemon heterophyllus Lindl. Filaments all and style glabrous. Cor. 1 in. long; lower lip with 2 "palates", one opp. each sinus of the lower lip. Fertile stamens inserted in very base of tube. Upper lobes finally recurving; lower lip spreading at right angles to tube.
Calistoga
No. 9971. Clarkia ~~elegans~~ unguiculata Dougl.
Petals pink, spreading in pairs right and left. Anthers intense terra-cotta; small anthers white. Calistōga.
↑ Large

No. 9972. Cytisus monspessulanus L. On broken ground at side of grade, east-side road, a little s. of Calistōga.
No. 9973. Holodiscus discolor Maxim. S. of Calistōga, east side road.
No. 9974. Lasthenia glaberrima
This composite grew in a marshy spot, s. of Calistōga, east-side road. [in the valley,
= Prunella
No. 9975. Brunella vulgaris L.
Valley flat near base of hills, e. from Yountville. Cont. p. 199
No. 9976. Agoseris = grandiflora plebeia Greene.
Fls. heads narrow. Yountville (e.).
No. 9977. Beckmannia syzigachne (Steud.) Fern. (DEl. Beecher Crampton, 1972)
Yountville (e.). This grass grew in shallow water.
= Tritelia
No. 9978. Brodiaea laxa Bth.
Blue form, small flowered. It is difficult to say why this is dif-

ferent from the usual form. And yet each time I see it, I feel that there is a varietal difference. It is (a) smaller flowered (perianth. 13 lines long). It is usually a more intense blue – but not dark blue. It tends to grow in semi-shady spots. Anthers azure blue. The style reaches just as far as the base of the segments! The nerves, running down inside tube from middle of segments, are abruptly and distinctly winged from a point about 4 lines above the base. Umbel often with numerous fls. Corms very large!



Base of perianth laid open, showing the wings on base of veins.

Low hills E. of Yountville.

No. 9979. Orthocarpus castilleioides Bth. Sacs of lower lip as broad as high. Teeth of lower lip, whitish, with a marked purple spot each, towards base, nearly as long as galea. Sac very hairy on inside on ridges of folds. Filaments and style glabrous. Yountville, sr.

No. 9980. Dragopogon porrifolius Napa. Common by roadsides north.

[Ent. no. 9975. Stamens, corolla, style glabrous. All the anthers with a cusp above; the four stamens uniform in this particular].

No. 9981. Brodiaea appendiculata Hoover det. Hoover. This is the same as no. 9899, collected in same spot. When I visited this little swale not (over)

No. 9982. Gilia ophis

San Andreas, June 3, 1923.

Joyce M. Saunders.

bar from the mouth of Conn Creek. I found only one plant just coming into flower. The lvs expanded fls. I took (no. 9899). On my return to the spot June 3, I found difficulty in finding any plants at all, even the plant from which I had clipped the two flowrs. All about were quantities of Brodiaea ~~coronaria~~ elegans in full flowr – in full anthesis. Finally I found near the same spot in the dry grass three plants only – no more! It is evidently rare. It is exactly the same as the strange Brodiaea (B. appendiculata Hoover) no 19954 from Calavras Co. which had also passed flowering when in company with B. ~~coronaria~~ elegans. Fls anthers lobs or teeth at top are very long. It has lvs or three stems from a bulb. The bulbs are deeply seated (9 inches!).

– Chas. Nielsen, Piercy P.O., S. Fork Eel. apr. 29

– Cont. from p. 145. "never repaid". If this whole account was from Mrs. B, then one may qualify it a bit.

– Re. note at bottom this page. The three counties Eldorado, Amador and Calavras were in one judicial district in 1864. The right name, probably, was Three Countier Courthouse?

– Re. the note in brackets at bottom of p. 167. It may be noted that the judicial districts varied greatly in size and in number of counties included. Calavras may have been in a 4-county district earlier or later.

483

– Mrs. J. G. Lemmon died in Stockton, Jan. 15, 1923. The funeral service were held in Oakland, Jan. 17, 1923. cf. Oakland Tribune, Jan. 16, 1923, p. 10, col. 3.

– Cont. from p. 143. Some two weeks before his arrival Skottsberg wrote to Setchell saying he wished to lecture before the California Botanical Society. As Setchell had nothing to do with the Society, being a nominal member who never attended a meeting, he was obliged to ask me if I would arrange a meeting (of the Society) for Dr. Skottsberg to speak, – which I did.

Addresses.

- B. B. Davis, Union Lumber Co., Ft. Bragg
- C. Krenger, " " " "
- H. P. Miller, Pacific Lumber Co.
- G. E. Thompson, Scotia " "
- J. Holmes, Eureka Lumber Co.

RICHMOND SAN RAFAEL

FERRY

TIME TABLE

SUMMER SCHEDULE

.Subject to Change Without Notice.

DAILY

Lv. Richmond	Lv. San Quentin
7:00 a.m	7:45 a.m
8:30 a.m.	9:15 a.m.
10:00 a.m.	10:45 a.m.
11:30 a.m.	12:15 p.m
1:00 p.m.	1:45 p.m.
2:30 p.m.	3:15 p.m.
4:00 p.m.	4:45 p.m.
5:30 p.m.	6:15 p.m.
7:00 p.m.	7:45 p.m.
8:30 p.m	9:15 p.m
*10:00 p.m.	*10:45 p.m.

*Sundays and Holidays only

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